The Academy for Educational Development

AED

International Division

The Academy for Educational Development, Inc., founded in 1961, is a private nonprofit service organization that works with governments, private organizations, international assistance agencies and foundations to seek solutions to some of the world's most pressing development problems. The Academy regularly provides assistance under contracts and grants in the fields of agriculture, health, nutrition, population, information management, manpower development and telecommunications, as well as all levels and areas of education, both formal and nonformal.

L'Académie pour le Développement de l'Education, Inc., fondée en 1961, est une organisation a but non-lucratif. Les services d'assistance technique fournis par l'Académie sous contrat et subvention aux gouvernements, organisations privées, et agences internationales d'assistance portent sur les domaines de l'agriculture, santé, nutrition, population, ressources humaines, informatique, et télécommunications, ainsi que tous les niveaux de l'éducation formelle et non formelle.

La Academia para el Desarrollo Educativo, Inc., fundada en 1961, es una organización privada, sin fines de lucro. La Academia ofrece servicios de asistencia técnica a los gobiernos y agencias de asistencia international en las esferas de agricultura, salud, nutrición, población, recursos humanos, informática y telecomunicación, tanto como en el área de educación a todo nivel —formal y no formal.

AED

Academy for Educational Development, Inc.
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Washington, D.C. 20037
(202) 862-1900
Cable—ACADED
Telex—197601 ACADED WSH or
89660

AED

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United States Telecommunication Training Institute

Course Catalog 1983-84

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"Our century of experience has proven that telecommunications is a flexible resource—a resource whose abundance increases in step with the development it makes possible for all mankind. We have enthusiastically shared our experience with the world for a century, and we look forward to continuing that mutually rewarding cooperation."

Ronald Reagan
President of the United States

Management and Technical Training in Telecommunications

The U.S. Telecommunications Training Institute (USTTI) is offering thirteen training courses for management and technical staff of developing nation telecommunication organizations and government agencies using telecommunications systems during its inaugural program year, 1983-84. Courses will be provided by leading U.S. telecommunications corporations and government agencies at various sites throughout the United States.

The USTTI has been established as a joint venture between major American telecommunication firms and the U.S. government to share advances in telecommunications technology with developing countries. In offering training programs at the management and advanced technical levels, the Institute seeks to contribute to the strengthening of planning and operation of telecommunication systems as part of national development.

A major U.S. initiative during World Communications Year (1983), the USTTI is a non-profit independent corporation administered by a Board of Directors representing both industry and government. The Institute is being assisted in its operations by the International Division of the Academy for Educational Development, Washington, D.C.

Training Schedule

The courses being offered in 1983-84 have been developed cooperatively by participating corporations and government agencies. In many cases corporations and agencies have combined their expertise and resources to offer coordinated courses around a single topic, enabling participants to have an extended training experience.

The courses have been clustered into three training semesters. It is anticipated that most participants will apply for one or more courses in a single semester. The courses have been scheduled to enable participants to apply to study for a single course, a combination of sequential courses, or for a full

semester. USTTI will consider applications from individuals for courses in more than one semester. In such cases participants will be asked to provide information on their intended activities during inter-semester time periods.

Participants may be admitted to one or all of the courses for which they apply, depending on participant background/qualifications, course requirements and number of training places available.

Note: In the Fall Semester participants may elect to enroll in only the first week of Course 202A, Broadcast Systems, in order to also enroll in the full course offered in Telecommunications Transmission Systems and Technology, Course 203. Alternatively, participants may elect to complete both weeks of Course 202A, and enter course 203 at the beginning of the second week.

Participant Qualifications

Participants must have working fluency in the English language. Language ability will be screened at the entry orientation sessions. For certain courses consideration may be given to team applications where at least one member has excellent English language skills and will serve as an interpreter for the team.

A post-secondary education is required, and a university degree in engineering, electronics, telecommunications or management is highly desirable. Equivalent practical experience in telecommunications may be substituted for education requirements.

Participants must meet the specific requirements of each course, as given in the detailed course descriptions in this catalog.

How to Apply

Individuals and nominating organizations should carefully review the

detailed course descriptions in this catalog. Individuals should apply or be nominated only for courses for which they meet the stated qualification requirements.

The enclosed application form should be fully completed. *Please note that an individual participant will normally apply or be nominated for courses in only one of the three training semesters.*

Applications should be sent directly to: U.S. Telecommunications Training Institute, 1414 22nd Street, N.W. Washington D.C., 20037 USA. Telex or cable nominations will be accepted provided they include all of the information requested in the application form.

Application Deadlines

Course 101:	April 11, 1983	Courses 201, 202, 203:	June 1, 1983
Course 102:	April 22, 1983		
Course 103:	May 6, 1983	Courses 301, 302, 303, 304, 305:	August 26, 1983
Course 104:	May 6, 1983		

Selection Process

Applications will be reviewed by the USTTI and sponsoring training organizations. Participants will be notified of selection decisions by cable or telex at least eight weeks prior to the start of training. Notification of acceptance will include required date and place of arrival, and itinerary for required travel within the U.S. Participants will be expected to confirm attendance no later than three weeks prior to the beginning of training.

Financial Support

Participants or participant organizations are responsible for costs of international and domestic U.S. travel, and for costs of subsistence while traveling and during training. Participants are encouraged to seek funding

support from donor and assistance agencies, as well as from their own organizations. USAID missions will consider providing travel and subsistence support for qualified nominees. The ITU Fellows program is also a potential source of support. Tuition and other costs of training are provided by USTTI training organizations and agencies.

Limited financial assistance may be available from USTTI.

It is important that participants fully complete the application section on financial information to enable USTTI to coordinate effectively with sponsoring organizations.

The USTTI suggested minimum subsistence rate while participants are in the U.S. is US $50.00 per day. USTTI will endeavor to assist participants granted lower daily rates by donor agencies.

Travel Arrangements

Participants are expected to arrive in the U.S. with air tickets for all required U.S. travel and for their return home. Tickets for domestic U.S. travel should be open: USTTI will make group reservations for internal travel.

Visa Arrangements

USTTI participants will be granted the B-1 visa at U.S. Consulates. *Participants must carry with them their letter of invitation from USTTI to show U.S. Immigration officials at port of entry.*

Orientation

All participants will be given an orientation at the U.S. port of entry prior to beginning of training. Details regarding orientation sessions will be provided with the letter of invitation.

	Course Number and Title	*Number of Participants*
Summer Semester		
	101/ Radio Spectrum Management	30
	102/ Telecommunication Systems: Network Planning, Design and Operations	25
	103/ Information Systems for Telecommunications Management	20
	104/ Network Technical Control, Operation and Management	4
Fall Semester		
	201/ Satellite Communications Management, Applications and Technology	40
	202.A/ Broadcast Systems Management and Operations	20
	202.B/ (same course repeated)	20
	203/ Telecommunications Transmission Systems & Technology	20
Spring Semester		
	301/ Management and Supervisory Techniques for Communication Systems	30
	302/ Telecommunication Terminal Equipment Maintenance and Installation	25
	303/ Record Network Development and Management	4
	304/ Store and Forward Switch Technology	4
	305/ Circuit Switch System and Management	4

Sponsoring Organization	*Location*	*Dates*
U.S. Government Spectrum Management Agencies	Washington, D.C.	June 13-July 8, 1983
American Telephone and Telegraph (AT&T)	Princeton, New Jersey	July 11-Aug. 12, 1983
International Business Machines (IBM)	Raleigh, North Carolina	Aug. 15-19, 1983
TRT Telecommunications Corporation	Fort Lauderdale, Florida	Aug. 22-Sept. 2, 1983
COMSAT	Clarksburg, Maryland	Sept. 7-20, 1983
AID Rural Satellite Program (Academy for Educational Development)	Washington, D.C.	Sept. 21-23, 1983
Hughes Aircraft Corporation	Los Angeles, California	Sept. 26-Oct. 7, 1983
Harris Corporation	Quincy, Illinois	Oct. 10-21, 1983
Harris Corporation	Quincy, Illinois	Oct. 24-Nov. 4, 1983
SCS Telecom Corporation	Albuquerque, New Mexico	Oct. 17-21, 1983
GTE Corporation	Albuquerque, New Mexico	Oct. 2-Nov. 5, 1983
Collins Transmission Division/Rockwell International	Dallas, Texas	Nov. 5-Nov. 18, 1983
Western Union	Atlanta, Georgia	Jan. 9-Feb. 3, 1984
MCI Telecommunications	Washington, D.C.	Feb. 6-Mar. 2, 1984
TRT Telecommunications Corporation	Ft. Lauderdale, Florida	Feb. 6-10, 1984
TRT Telecommunications Corporation	Ft. Lauderdale, Florida	Feb. 13-24, 1984
TRT Telecommunications Corporation	Ft. Lauderdale, Florida	Feb. 27-Mar. 9, 1984

101: ***Radio Spectrum Management*** Organization, planning and management of a National Frequency Management unit; procedures and processes required to assign, coordinate, and record frequencies; selected technical support functions such as engineering, monitoring and computer-aided techniques in frequency management.
Participants: Directors, managers, and mid-level technical personnel responsible for supervision and operation of frequency management systems.

Dates: June 13-July 8, 1983

Location: Washington, D.C.

Sponsors: U.S. Government Communication Agencies

102: ***Telecommunication Systems; Network Planning, Design and Operations*** This course will provide a knowledge and understanding of telecommunications with emphasis on the emerging stored-program-controlled digital network. A fundamental aspect will be the discussion of the network and the critical elements involved in technical decision making. The accent of the course is on planning, designing and operating the integrated telecommunications network and maintaining the critical balance between service and cost. The study of the network is designed so that the integrated relationship among its components is stressed.
Participants: Managers responsible for the planning of a nation's telecommunications network. Participants should have substantial experience in telecommunications network design and planning. A four year engineering degree is desirable.

Dates: July 11-August 12, 1983

Location: Princeton, New Jersey

Sponsor: American Telephone & Telegraph Company

103: ***Information Systems for Telecommunications Management*** As technology increases, the demands of both the information system and

the telecommunications system to deliver vital information also increase. The interrelationship between telecommunications and information processing becomes a complementary one, brought on by user's needs for new and improved services. Recognition of the requirements at an early stage in the development of systems for providing these services is important to making technically correct and cost-effective decisions. This program will consist of a series of presentations and discussions on the use of data processing in the telecommunications environment, and on the management of telecommunication services for information handling. Trends and future requirements in these areas will also be addressed.

Participants: Directors, managers, and senior-level staff responsible for planning and deciding on telecommunications equipment and services in support of data communications and information processing systems.

Dates: August 15-19, 1983

Location: Raleigh, North Carolina

Sponsor: IBM

104: ***Network Technical Control, Operation and Management*** Overview of the design and operation of a typical network control facility. Terrestrial and satellite networks and interfaces; high-speed, long-haul and multi-port modems; time-division, frequency division and statistical multiplexing; distribution frames; circuit monitoring, patching and test equipment. Plant inplace and circuit records. Analog and digital circuits and their operating characteristics; operational monitoring, both manual and automatic; and circuit patching and trouble clearing procedures. *Participants:* Operational personnel engaged in technical control of networks. Participants should understand basic electronics and the fundamentals of analog and digital circuits. Practical experience in circuit trouble identification and clearance desirable.

Dates: August 22-September 2, 1983

Location: Fort Lauderdale, Florida

Sponsor: TRT Telecommunications Corporation

201: ***Satellite Communications Management, Applications and Technology*** This course will cover three related areas in satellite technology. The initial portion will address fundamental questions related to the management of satellite networks and services, earth station trade-offs; system performance, measurement and evaluation; and future trends. The second portion will address multi-disciplinary planning, design, implementation and evaluation of rural satellite systems and services. It will examine advances in earth station design and solar power. The third portion will stress satellite technology, including spacecraft, orbit control, synchronous orbit, link analysis system design, and traffic engineering. *Participants:* Directors and managers responsible for the technical operation of satellite communications, or the planning of satellite systems and services.

Dates: September 7-October 7, 1983

Location: Clarksburg, Maryland/ Washington, D.C./Los Angeles, California

Sponsors: COMSAT/AID Rural Satellite Program (implemented by the Academy for Educational Development)/Hughes Aircraft Company

202.A, 202.B: ***Broadcast Systems Operation and Management*** Management of broadcasting facilities, like broadcast equipment space needs itself, has seen significant changes. Proper management techniques must be continuously reviewed and updated. This course will cover new developments in broadcasting equipment, broadcast equipment planning and applications, test equipment considerations, personnel management by objectives, and developing and maintaining a service parts depot.

The two week course will be offered

twice, depending upon the number of applications. The first week of the course will focus on technical issues; the second on management of broadcast facilities.*

Participants: Managers and senior technical personnel in radio or television broadcasting facilities.

Dates: 202.A October 10-21, 1983*
202.B October 24-November 4, 1983

Location: Quincy, Illinois

Sponsor: Harris Corporation, Broadcast Division

203: ***Telecommunications Transmission Systems and Technology***

This course will provide an overview of the technology, systems engineering and transmission equipment involved in the design and implementation of a terrestrial transmission system. The course will begin with a one-week tutorial on technology including the latest in high density modulation schemes for both analog and digital microwave systems, multiplex hierarchies, lightwave transmission technology, digital, voice and audio encoding systems.* The next two weeks will include design criteria and transmission equipment characteristics for multiplex systems, both analog (FDM) and digital (PCM). The final two weeks will consist of systems design criteria and transmission equipment characteristics for lightwave systems and microwave systems, both analog (FDM-FM and SSB) and digital (8PSK and 64 QAM).

Throughout the course, students will be able to see the equipment operate and be given hands-on experience. Emphasis in the course will be on system design engineering.

Participants: Technical staff with responsibility for design of terrestrial transmission systems (microwave and lightwave). Participants should have a technical degree and some experience in transmission network design.

Dates: October 17* to November 18, 1983

Locations: October 17 to November 5, 1983 in Albuquerque, New Mexico

**See note on page 2.*

November 6 to November 18, 1983, in Dallas, Texas

Sponsors: SCS-Telecom/General Telephone & Electronics/Rockwell International, Collins Transmission Systems Division

301: ***Management and Supervisory Techniques for Communication Systems*** Management procedures and techniques for supervisors. Problem solving, human relations, the importance of communication in relation to communication systems management. Review of latest telegraph and telex systems. *Participants:* Managers and Supervisors in Telegraph and Telex operations.

Dates: January 9-February 3, 1984

Location: Atlanta, Georgia

Sponsor: Western Union Telegraph Company

302: ***Telecommunications Terminal Equipment Maintenance and Installation*** A basic course in technical aspects of microwave/

radio terminal equipment installation and maintenance, including wiring, cabling, signalling, terminal records and reports, test equipment and procedures, and circuit testing. *Participants:* Technicians with at least two years of post-secondary education/training in electronic technology.

Dates: February 6-March 2, 1984

Location: Washington, D.C.

Sponsor: MCI Telecommunications, Inc.

303: ***Record Network Development and Management*** Overview of local distribution networks and long-haul aggregates. Placement and use of direct subscriber modems and dialup modem interfaces, hubbing, frequency/time division multiplexing, concentrators, high-speed multi-port modems, and terrestrial and satellite links. Network distributed processing, numbering plans, and flow control. Network engineering for prescribed grades of services, its impact on network size and cost, and the interconnection with other networks. Emphasis on telex and telex-related services. *Participants:* Technical staff with practical experience in the design, installation and operation of telex equipment and services. Good understanding of the fundamental electrical principles of telex.

Dates: February 6-10, 1984

Location: Fort Lauderdale, Florida

Sponsor: TRT Telecommunications Corporation

304: ***Store and Forward Switch Technology*** Overview of the structure of an automatic store-and-forward exchange, to include electrical signal interfaces, message formats, message accountability requirements, on-line versus off-line operations, typical operator activities, and recovery/restart procedures. Covers systems operation as well as message repair and intercept operations, alarm conditions and indications, and quality of service management techniques. Emphasis on telegraph and telex services.

Participants: Technical staff in telegraph/telex operations with good knowledge of the fundamentals of telegraph (F.31) and telex operations, whether manual or automatic.

Dates: February 13-24, 1984

Location: Fort Lauderdale, Florida

Sponsor: TRT Telecommunications Corporation

305: ***Circuit Switch System Operation and Management*** Overview of the structure of a stored program controlled circuit switch, to include electrical signal interfaces, distributed hardware and software techniques, and program versus user-definable table controls. Typical operator controls, alarm conditions and indications, peripheral operations and support, on-line versus off-line functions, preventive and on-demand maintenance requirements and techniques, line monitoring and trouble-clearance procedures, and recovery/restart processes. Physical and environmental requirements; network interconnections. Quality of service management techniques. Emphasis on automatic telex exchanges.
Participants: Technical staff in telex operations with good knowledge of basic electronics, fundamentals of telex operations including manual and automatic switching, and electrical principles of telex.

Dates: February 27-March 9, 1984

Location: Fort Lauderdale, Florida

TRT Telecommunications Corporation

Further Information

For additional information contact:

USTTI
1414 22nd Street, N.W.
Washington, D.C. 20037 USA

Telex: ACADED WSH 89660, 197601
Cable: ACADED Washington, D.C.

Telephone: (202) 862-3857

All photographs courtesy of the COMSAT Public Information Office.

Corporate Sponsors

American Telephone & Telegraph Company *(AT&T)*

COMSAT

General Telephone & Electronics International *(GTE)*

Hughes Aircraft Company

MCI Telecommunications Corporation *(MCI)*

TRT Telecommunications Corporation

SCS Telecom, Inc.

Harris Corporation/Broadcast Division

International Business Machines Corporation *(IBM)*

International Telephone and Telegraph *(ITT-COINS)*

The Western Union Telegraph Company

Collins Transmission Systems Division/Rockwell International

RCA Global Communications

Timothy Ward Design Office

83/WORLD
COMMUNICATIONS
YEAR/USA

United States Telecommunication Training Institute 1983-84 Course Catalog


TELECOMMUNICATIONS
PROGRAM
Academy for
Educational
Development

TELECOMMUNICATIONS PROGRAM

The Telecommunications Program of the Academy for Educational Development (AED) helps nations and institutions use telecommunications to foster development. The telecommunication technologies now available—ranging from simple telephone and radio systems to television, computers, and satellites—can be helpful in promoting commerce, administering remote field offices, training dispersed agricultural extension workers, providing nonformal education to a wide audience, supporting classroom teachers, and extending expert health care to isolated rural clinics.

The services of AED's Telecommunications Program are designed to balance the vast technological possibilities with practical user requirements and with financial and manpower constraints. These services help the client to develop economical ways to use communications technology, whether nationally or for special interest networks; to improve the use of existing communications infrastructure for education and development; and to integrate communications planning with national economic and development planning.

Services Offered by the Telecommunications Program:

- *Needs assessment* of the communication and information requirements of social development agencies.
- *Feasibility studies* to determine how telecommunications can increase the efficiency, effectiveness, and scope of services.
- *Planning and implementation* of telecommunication and broadcasting systems for development and public service purposes.
- *Management* of complex telecommunications and instructional media programs, including engineering subcontract supervision and equipment procurement.
- *Training programs* for planners, managers, engineers, evaluators, and users of telecommunication systems.
- *Design and installation* of computer networks for information exchange and instruction.
- *Evaluation* of the effectiveness and cost of communication systems and programs.
- *Economic analysis* of the requirements and effects of telecommunication and broadcasting systems.
- *Telecommunication policy studies* of issues, tariffs, regulatory actions, institutional development, and national goals.
- *Seminars* on a full range of subjects related to telecommunications and its applications.
- *Information services* on telecommunication applications, systems, technology, and funding worldwide.

AED's Experience in Telecommunications:

Over the past 14 years AED's International Division has provided assistance to a wide variety of agencies in planning, specifying, and obtaining communication services and meeting user requirements. Major planning and management efforts have included:

- The Rural Satellite Program, implementing pilot projects for education and development, information services, and policy studies. Funded by the U.S. Agency for International Development (AID) (1980), and co-funded by participating countries and institutions around the world.
- The ENTEL-Peru Rural Communication Services Project, a satellite-linked rural telephony project funded by AID (1982).
- Consulting services to the U.S. Telecommunications Training Institute, funded by U.S. telecommunications corporations (1982).
- International visitor seminars and orientation visits relating particularly to the satellite and telecommunications field.

- Agricultural radio stations in Jamaica, Guatemala, and Liberia; educational radio and television facilities and manpower training in Indonesia; radio marketing in Kenya, the Gambia, and Honduras; and evaluation of educational television in El Salvador and the Ivory Coast.

- Design and implementation of information systems using computers for educational and research institutions in Senegal, Zimbabwe, and Saudi Arabia.

- Operation of a worldwide information system and services on telecommunications and development.

Major policy studies and analyses have included:

- Analysis of the World Administrative Radio Conferences, with a focus on developing countries.

- Survey of satellite systems available for developing countries.

- A study of satellite telecommunications for Africa, for the European Space Agency.

- Analysis of experience with two-way communication systems for health care.

- A survey of experiences and technologies with teleconferencing systems in education.

- A study of funding criteria and mechanisms for rural telecommunication systems.

- Ongoing assessments of communication technologies and their suitability for developing countries, ranging from satellite earth stations to telecopiers.

In all of its activities, AED's primary objective is to work collaboratively with participating nations to transfer substantive skills and to develop local capabilities.

About the Academy for Educational Development:

The Academy for Educational Development is a non-profit service and research organization founded in 1961 to develop innovative solutions to critical educational problems. Today AED comprises five divisions, including the International Division. The strength of AED lies in its staff, which includes planners, economists, trainers, information specialists, rural development experts, and instructional designers. AED has worked in over 80 countries, has over 98 professional employees, and maintains principal offices in New York and Washington, D.C. Program offices are currently located in Bolivia, Botswana, Ecuador, Egypt, The Gambia, Honduras, Indonesia, Jamaica, Kenya, Peru, Saudi Arabia, Sri Lanka, Swaziland, and Tunisia.

For further information about the Telecommunications Program contact:
Anna Casey-Stahmer
Vice President for Telecommunications
Academy for Educational Development, Inc.
1414 22nd Street, N.W.
Washington, D.C. 20037, U.S.A.
Telephone: (202) 862-1900
Cable: ACADED WASH DC
Telex: ACADED WSH 89660 or 197601

After April 1st, 1984:

Academy for Educational Development, Inc.
1255 23rd Street, N.W.
Suite 401
Washington, D.C. 20037, U.S.A.

AED

Mass Media & Health Practices

MASS MEDIA is helping mothers in Africa and Latin America prevent and treat infant diarrhea. Health workers and traditional leaders distribute an illustrated instructional flyer; radio teaches mothers how to use the flyer; the flyer reminds mothers how to mix the new medicine when it is needed. The combination of radio, print, and health workers in a single package is an important key to success.

VILLAGE RESEARCH is another key to success. The radio programs, illustrations, slogans, and the health advice itself are carefully tested with rural women. The goal is to create materials which these women can understand and believe in. Their vocabulary, their beliefs, and their practices are reflected in every aspect of the program.

CREATIVITY is also important. A colorful flag and comic books are examples of how simple materials have been used to popularize important new concepts.

Other important health advice on immunization, malaria, tuberculosis and water and sanitation has been added. And yet, the same basic approach is proving successful. Practical advice, carefully tested and widely promoted through a combined package of radio, print, and personal support, can overcome the barriers of distance, isolation, language, and tradition.

THE MASS MEDIA AND HEALTH PRACTICES PROJECT
is a program of the
Bureau for Science and Technology
Office of Education
and
Office of Health
Agency for International Development

through contracts with the
Academy for Educational Development, Inc.
as Implementation Contractor
and
Stanford University's
Institute for Communication Research
as Evaluation Contractor

Oral Rehydration in the Village: EIGHT MYTHS

Bureau for Science and Technology / Agency for International Development

Réhydratation orale villageoise: L'anéantissement de HUIT MYTHES

Bureau de la science et de la technologie / Agence pour le développement international

La Rehidratación Oral en las Areas Rurales: Erradicando OCHO MITOS

Oficina para la Ciencia y Tecnología/Agencia para el Desarrollo Internacional

The Use of Mass Media in Teaching Health Practices

This is a program of the
Bureau for Science and Technology,
Office of Education
and
Office of Health
Agency for International Development
and the
Ministries in Health in
Honduras and The Gambia
in cooperation with the
Academy for Educational Development
and
Stanford University

L'emploi des médias de masse dans l'enseignement des pratiques sanitaires

Ce programme est l'oeuvre des organismes suivants :
Bureau de la science et de la technologie
Office de l'éducation et
Office de la santé
Agence pour le développement international
et
Ministères de la santé
au Honduras et en Gambie
avec le concours de
Académie pour le développement de l'éducation
et
Université de Stanford

El Programa de Comunicación Masiva Aplicado a la Salud Infantil

Este es un programa de la
Oficina para la Ciencia y Tecnología
Oficina de Educación y
Oficina de Salud
Agencia para el Desarrollo Internacional
y de los
Ministerios de Salud en
Honduras y La Gambia
con el apoyo de la
Academia para el Desarrollo Educativo
y la
Universidad de Stanford

Third World countries
have been struggling with the problem
of providing oral rehydration therapy to
isolated and often illiterate villagers.

Les pays du tiers monde sont
en proie à la difficulté d'introduire
la thérapie de la réhydratation orale parmi
les villageois isolés et souvent analphabètes.

Muchos paises del
mundo están luchando con el
problema de proporcionarle terapia de
rehidratación oral a su población rural.

The Use of Mass Media in Teaching Health Practices

This is a program of the
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L'emploi des médias de masse dans l'enseignement des pratiques sanitaires

Ce programme est l'oeuvre des organismes suivants:
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El Programa de Comunicación Masiva Aplicado a la Salud Infantil

Este es un programa de la
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Honduras y La Gambia
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Academia para el Desarrollo Educativo
y la
Universidad de Stanford

(From page 1) WITH THE HELP of the U.S. Agency for International Development (AID), the Ministries of Health in Honduras and The Gambia are solving this problem through massive educational communication campaigns. Thousands of villagers have learned to recognize the signs of dehydration and to prepare and administer ORT in their homes. This work is an element of AID's effort to expand the usefulness of mass communication in development. A new generation of programs is demonstrating that a scientifically based system combining radio, print, and interpersonal instruction can provide *vital information* to people at *less cost* than ever before. The Mass Media and Health Practices project is AID's primary communication effort in health, and is being carried out by its Bureau for Science and Technology.

Using data from the project, this brochure challenges eight myths about the delivery of health messages to rural people. It shows how mass media has helped health workers teach the vital skills of oral rehydration therapy in two very different countries. We believe that the methods described here can be applied to other health and nutrition priorities such as immunization, malaria, water and sanitation, and infant feeding.

Project Description

About five million children die each year from diarrheal dehydration. Oral rehydration therapy (ORT) represents an effective weapon against diarrheal death, but to be widely effective rural mothers must learn how to mix correctly and administer a simple electrolyte solution. Developing countries are thus struggling with the problem of how to deliver ORT effectively to isolated and often illiterate villagers.

The Mass Media and Health Practices project has worked with the Ministries of Health in Honduras and The Gambia to develop a large-scale campaign using radio, print, and health worker training to teach mothers the basic steps in home-administered oral rehydration. The goal is to institute early oral rehydration and cut both the number of severe cases and the number of deaths. The project has operated in Honduras since 1980 and in The Gambia since 1981. In each country the project includes a two-year broadcast cycle preceded by several months of field

research and planning, an activity crucial to identifying key differences in local culture and resources.

The resulting projects are different in the two countries. In Honduras, the government is distributing a locally produced, WHO-formula packet called Litrosol. Litrosol is being promoted for use in the home as well as in clinics and hospitals. The program is taking advantage of an extensive network of private and public radio stations to transmit thousands of radio spot announcements and dozens of weekly health programs which repeat Litrosol mixing instructions and remind mothers when to seek care at health centers. A variety of posters, instructional pamphlets, and photonovelas have been developed for both health workers and rural mothers. More than 1,500 health workers have been trained by the project in specially designed one-day workshops. The professional medical community in Honduras is playing an important role in the project's success.

In The Gambia, the government determined that packets would be too costly for the government to provide in every home. They therefore have developed a formula for preparing a simple sugar and salt rehydration solution using mixing containers found commonly in rural homes. Again, radio is being used to teach the formula to mothers and to remind rural women of information they have received at health centers. A single graphic has been widely disseminated illustrating how to mix the sugar-salt solution. Radio, health workers, and volunteers are teaching mothers how to use the printed instructions.

The two programs have several things in common. Both countries are using field research to select a campaign message, to identify local vocabulary, and to plan broadcast and distribution schedules. Local beliefs are incorporated into campaign messages. According to one local belief, a cause of diarrhea is the disruption of *lombrices* (worms) that normally inhabit a sac, called *la bolsa* in the gut. The worms become agitated because of filth, wander from the sac and disrupt normal digestive and intestinal operations. Practical Applications: One radio spot featured a humorous conversation between "Lombricio" and "Lombrolfo," two worms discussing the effects of filth and poor food preparation on the child they inhabited. The first campaign in Honduras assumed that older siblings took care of their younger brothers and sisters during diarrhea. *Not so, the project learned.* When an

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L'emploi des médias de masse dans l'enseignement des pratiques sanitaires

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infant becomes sick, the mother assumes full responsibility for the child. Early concept testing prevented a significant waste of project resources.

Both countries are using a volunteer system to extend the outreach of health workers. Hundreds of volunteers have been trained in short courses and have been given a colorful identifying flag which they fly over their houses. Radio announcements tell the rural population to "look for the colored flag if you need help in preparing the diarrhea medicine." This system has proved inexpensive and effective in providing support to rural mothers.

An important goal in both countries is to maximize the interaction of radio, print, and health worker contact. All of the materials used have been carefully pretested, and the campaign worker includes regular monitoring to ensure that assumptions about the target audience remain valid during the campaign.

The Agency for International Development, through its Bureau for Science and Technology, has contracted the Academy for Educational Development to provide two full-time experts in Honduras and one full-time expert in The Gambia. In both countries these experts are working not only to develop an effective diarrhea campaign, but also to train local health educators to plan and conduct audience research, to construct and test specific materials, and to monitor and change the program as it progresses. The Bureau also has contacted Stanford University's Institute for Communication Research to conduct an independent evaluation of the program. Stanford is providing one full-time evaluation specialist in each country. This evaluation includes a panel study of some 800 families supported by an ethnographic, pre-post, mortality, and health worker study. The Stanford evaluation, to be released in phased segments beginning in 1983, will focus on changes in health practices related to infant diarrhea. Extensive documentation is becoming available on the development and implementation of the communication strategy, as well as its impact.

(de page 1) AVEC LE CONCOURS de l'Agence des Etats-Unis pour le développement international (AID), les Ministres de la santé du Honduras et de La Gambie s'attachent à résoudre ce problème par le biais de campagnes massives à base de communications éducatives. Des milliers de villageois ont appris à reconnaître les

signes de la déshydratation, ainsi qu'à préparer et administrer la TRO à domicile. Cette oeuvre constitue un volet de la démarche engagée par l'AID en vue d'accentuer l'utilité des communications de masse en matière de développement. Une nouvelle génération de programmes démontre qu'un système d'inspiration scientifique conjugant la radio, les imprimés et l'instruction personnelle permet d'apporter des *informations vitales* aux intéressés moyennant un *côut inférieur* à ce qu'il était auparavant. Le projet des médias de masse et des pratiques sanitaires représente la démarche la plus importante de l'AID au niveau des communications de santé, sa mise en oeuvre étant confiée au Bureau de la science et de la technologie.

La présente brochure utilise les données du projet pour mettre en question huit mythes concernant la communication des messages sanitaires aux populations rurales. Elle montre comment les médias de masse ont aidé les agents sanitaires à enseigner les aptitudes vitales requises par la thérapie de la réhydratation orale dans deux pays différents. Nous pensons que les méthodes décrites ici peuvent s'appliquer à d'autres priorités sanitaires et nutritionnelles comme l'immunisation, la malaria, l'eau et l'assainissement, ainsi que l'alimentation des nourrissons.

Description du projet

Près de cinq millions d'enfants meurent chaque année de déshydratation due à la diarrhée. La thérapie de la réhydratation orale (ORT) constitue une arme efficace pour lutter contre la diarrhée fatale mais, pour être largement efficace en milieu rural, les mères doivent apprendre à correctement mélanger et administrer une simple solution d'électrolyte. Les pays en développement s'efforcent de trouver la bonne manière d'enseigner la TRO à des villageois isolés et souvent analphabètes.

Le projet des médias de masse et des pratiques sanitaires a coopéré avec les Ministères de la santé du Honduras et de La Gambie en vue de lancer une campagne à grande échelle faisant intervenir la radio, des imprimés et la formation d'agents sanitaires dans le but d'apprendre aux mères les mesures élémentaires de la réhydratation orale administrée à domicile. L'objectif est d'instituer très tôt la réhydratation orale de manière à minimiser les incidences tant de cas graves que de décès. La mise en oeuvre du projet date de 1980 au Honduras et de 1981 en Gambie.

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Dans chaque pays, il comprend un cycle d'émissions de deux ans précédé par plusieurs mois de recherche sur le terrain et de planification, activité cruciale pour l'identification des différences clés propres aux cultures et ressources locales. C'est ainsi que chaque pays a élaboré un projet spécifique.

Au Honduras, les pouvoirs publics ont distribué un sachet contenant une formule de l'Organisation mondiale de la santé produite sur place et appelée Litrosol. La promotion de cette marque vise l'emploi à domicile et dans les hôpitaux. Le programme tire parti d'un vaste réseau de stations radiophoniques privées et publiques qui transmettent des milliers de messages radiodiffusés et des douzaines de programmes de santé hebdomadaires répétant les instructions pour mélanger le Litrosol et rappelant aux mères quand s'adresser aux dispensaires. Le projet a employé diverses affiches, des brochures explicatives et des textes illustrés à l'usage des agents sanitaires et des mères en milieu rural. Par ailleurs, le projet a formé plus de 1.500 agents sanitaires au cours d'ateliers d'un jour conçus à cet effet. La communauté professionnelle médicale du Honduras joue un rôle décisif pour la réussite du projet.

En Gambie, les autorités ont jugé que les sachets seraient trop coûteux pour assurer leur distribution publique dans chaque foyer. Par conséquent, elles ont mis au point une formule permettant de préparer une simple solution de réhydratation à base de sucre et de sel qui utilise des récipients couramment trouvés dans les foyers ruraux. Une fois encore, la radio a servi à enseigner la formule aux mères et à rappeler aux femmes des campagnes les informations reçues aux dispensaires. Le projet a assuré la diffusion intensive d'un seul graphique illustrant la manière de mélanger la solution de sucre et de sel. La radio, des agents sanitaires et des bénévoles montrent aux mères comment suivre les instructions imprimées.

Les deux programmes ont plusieurs points communs. Les deux pays ont recours à la recherche sur le terrain pour choisir un message de campagne, identifier le vocabulaire local, planifier une émission et fixer des calendriers de distribution. La première conception de la campagne au Honduras a supposé que les aînés prenaient soin de leurs frères et soeurs en cas de diarrhée. Il n'en était rien, a révélé la recherche du projet. Lorsqu'un nourrisson tombe malade, la mère assume toute la responsabilité de l'enfant. Les tests préliminaires ont ainsi évité un grand

gaspillage des ressources du projet.

Les croyances locales sont incorporées dans les messages de la campagne. D'après l'une de ces croyances, la cause de la diarrhée est la perturbation des *lombrices* (vers) qui habitent normalement un sac appelé *la bolsa* dans les entrailles. Les vers s'agitent en raison de la saleté, quittent le sac et perturbent les opérations digestives et intestinales normales. Applications pratiques : un message radiophonique a présenté une conversation humoristique entre "Lombricio" et "Lombrolfo", deux vers, discutant des effets de la saleté et des mauvaises préparations alimentaires sur l'enfant qu'ils habitent.

Les deux pays utilisent un système bénévole pour élargir l'audience des agents sanitaires. Des centaines de bénévoles ont été formés pendant des stages de courte durée et ont reçu un drapeau de couleur d'identification qu'ils dressent sur leur maison. Les avis radiodiffusés disent à la population rurale : "Trouvez le drapeau de couleur si vous avez besoin d'aide pour préparer le médicament contre la diarrhée". Cette méthode s'est avérée être un moyen peu coûteux et efficace de venir en aide aux mères des régions rurales.

Un objectif essentiel des deux pays vise à maximiser l'interaction de la radio, des imprimés et du contact avec les agents sanitaires. Tout le matériel utilisé a fait l'objet de tests préalables très minutieux, et la campagne inclut un contrôle régulier permettant d'assurer que les hypothèses adoptées concernant l'audience cible restent valables durant la campagne.

L'Agence pour le développement international, par l'entremise de son Bureau de la science et de la technologie, a passé un contrat avec l'Académie pour le développement de l'éducation au sujet des prestations de deux experts recrutés à temps complet au Honduras et d'un expert recruté à temps complet en Gambie. Dans l'un et l'autre pays, ces experts s'attachent non seulement à élaborer une campagne efficace contre la diarrhée, mais aussi à former des instructeurs sanitaires locaux à planifier et mener des recherches sur l'audience visée, à mettre au point et tester des accessoires donnés, de même qu'à contrôler et modifier le programme à mesure qu'il est mis en oeuvre. Par ailleurs, le Bureau a passé un contrat avec l'Institut de recherche sur les communications de l'Université de Stanford en vue de procéder à une évaluation indépendante du programme. Stanford assure la

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prestation d'un spécialiste de l'évaluation recruté à temps complet dans chaque pays. L'évaluation inclut une étude par un groupe d'experts de quelque 800 familles, étayée par une étude sur l'ethnographie, la pré et post-mortalité, ainsi que les agents sanitaires. L'évaluation de Stanford, qui sera communiquée par segments successifs à partir de 1983, sera axée sur l'évolution des pratiques sanitaires en ce qui concerne la diarrhée infantile. On commence à disposer d'une importante documentation concernant l'élaboration et la mise en oeuvre des stratégies de communication, et concernant leurs incidences.

(de pagina 1) CON EL APOYO de la Agencia para el Desarrollo Internacional (AID), los Ministerios de Salud de Honduras y La Gambia están resolviendo este problema a través de campañas de comunicación educacional. Miles de habitantes rurales han aprendido a reconocer los síintomas de la deshidratación y la preparar o administrar la TRO en sus hogares. Esta labor forma parte del esfuerzo de la AID en ampliar la efectividad de la comunicación masiva en el desarrollo rural. Una nueva generación de programas está demostrando que un sistema con una base científica que combine la radio, el material impreso y la instrucción interpersonal puede proporcionarle a la población rural *información vital* a un *costo menor* que en cualquier programa anterior. El Programa de Comunicación Masiva Aplicado a la Salud Infantil (PROCOMSI) es el máximo exponente del uso de los medios de comunicación en programas de salud de la AID, y está siendo llevado a cabo por la Oficina para la Ciencia y Tecnología.

Utilizando la experiencia obtenida durante el transcurso del proyecto, este folleto desafía ocho de los mitos existentes sobre la difusión de mensajes de salud a la población rural. Muestra cómo los medios masivos de comunicación han ayudado a los trabajadores de salud a enseñar al público las destrezas necesarias en la terapia de rehidratación oral en dos países muy distintos. Consideramos que los métodos aquí descritos pueden ser aplicados a otras prioridades de salud y nutrición tales como programas de inmunización, malaria, medidas, sanitarias y alimentación infantil.

Descripción del Proyecto

Más de cinco millones de niños mueren cada año de la deshidratación a causa de la diarrea. La Terapia de Rehidratación Oral (TRO) representa un arma eficaz para combatir la muerte por diarrea pero, para ser ampliamente eficaz, las madres rurales deben aprender cómo mezclar y administrar correctamente una solución electrólita simple. Los países en desarrollo están luchando con el problema de cómo difundir adecuadamente la TRO a la población rural que se encuentra aislada y que frecuentemente es analfabeta.

El Programa de Comunicación Masiva Aplicado a la Salud Infantil ha trabajado en forma conjunta con los Ministerios de Salud en Honduras y La Gambia para desarrollar una campaña a gran escala utilizando la radio, el material impreso y la capacitación de trabajadores de salud a fin de enseñarle a las madres los pasos básicos de la rehidratación oral en casa. La meta del proyecto es la de instituir una rehidratación oportuna y reducir tanto el número de casos críticos así como el número de muertes. El proyecto ha estado en operación en Honduras desde 1980 y en La Gambia desde 1981. En cada uno de los países, el proyecto incluye un ciclo de radiodifución de dos años el cual está precedido por varios meses de investigación de campo y planificación, actividades cruciales en la identificación de las diferencias claves aparentes en la cultura y los recursos locales. Consecuentemente, los proyectos resultantes son distintos en ambos países.

En Honduras, el gobierno está distribuyendo un paquete llamado Litrosol, el cual se produce localmente con la fórmula de la Organización Mundial de la Salud (OMS). Se está promoviendo el uso del Litrosol tanto en el hogar como en las clíinicas y los hospitales. El programa está utilizando una red de emisoras públicas y privadas para transmitir miles de cuñas radiales y docenas de programas semanales de salud que repiten las instrucciones para mezclar el Litrosol y le recuerdan a las madres cuándo deben buscar atención médica en los centros de salud. Se han elaborado una variedad de afiches, folletos instrutivos y fotonovelas tanto para los trabajadores de salud como para las madres rurales. Más de 1,500 trabajadores de salud han sido capacitados en talleres de un día de duración, especialmente diseñados por el proyecto. La comunidad médica profesional en Honduras está desempeñando un papel importante contribuyendo al éxito del proyecto.

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En La Gambia, el gobierno determinó que le sería demasiado costoso el proporcionar paquetes en cada hogar. Por lo tanto, se ha desarrollado una fórmula para preparar una solución simple de rehidratación con azúcar y sal, utilizando para la mezcla recipientes comúnmente encontrados en los hogares rurales. A su vez, se está utilizando la radio para enseñarle a las madres rurales la fórmula y para recordarles la información que han recibido en los centros de salud. Se le ha dado amplia difusión a una hoja volante, la cual ilustra cómo mezclar la solución de sal/azúcar. La radio y los trabajadores de salud están instruyendo a las madres en la utilización de dichas hojas volantes.

Los dos programas tienen varios elementos en común. Ambos países están utilizando la investigación de campo para seleccionar mensajes para la campaña, para identificar el léxico local y para programar los horarios de radiodifusión y distribución. El primer diseño de campaña en Honduras supuso que los(as) hijos(as) mayores cuidaban a los hermanos y hermanas menores durante los episodios de diarrea. El proyecto averiguó que no es así. Cuando un niño se enferma, la madre asume toda la respondabilidad del cuidados de éste. Esta investigación oportuna evitó un desperdicio significativo de los recursos del proyecto.

Tradiciones y creencias rurales fueron incorporadas al programa. Por ejemplo, de acuerdo a una creencia local, una causa de la diarrea es la perturbación de las lombrices que normalmente habitan un lugar llamado "la bolsa" en los intestinos. Las lombrices se agitan debido a la suciedad, salen de la bolsa y desorganizan las operaciones digestivas e intestinales. Aplicación práctica: un mensaje radiado presentaba una conversación entre "Lombricio" y "Lombrolfo", dos lombrices que discutían los efectos que tenían la suciedad y la falta de higiene en la preparación de alimentos sobre el niño en el cual vivían.

Ambos países están utilizando un sistema de voluntarios comunales para extender el alcance de los trabajadores de salud. Se ha capacitado a cientos de voluntarios en cursos de corta duración y se les ha dado una bandera de color como identificación, la cual deben colocar sobre sus casas. Los anuncios de la radio le dicen a la población que "busque la bandera de color si necesita ayuda en la preparación de la medicina para la diarrea". Este sistema ha resultado ser económico y eficaz para

enseñarle a las madres rurales.

Una importante meta en ambos países es la de enfatizar la interacción de la radio, el material impreso y el contacto con el trabajador de la salud. Todos los materiales a utilizarse han sido probados cuidadosamente con anterioridad y la campaña incluye un monitoreo contínuo a fin de garantizar que las metas se cumplan durante la campaña.

La Agencia para el Desarrollo Internacional, a través de su Oficina para la Ciencia y Tecnología, ha contratado a la Academia para el Desarrollo Educativo a fin de que proporcione a dos expertos de tiempo completo en Honduras y a un experto de tiempo completo en La Gambia. En ambos países, estos expertos están trabajando no sólo para elaborar una campaña efectiva contra la diarrea, sino que también para cooperar con los educadores de salud en la programación y conducción de investigaciones de base, en la elaboración y evaluación de materiales específicos y en la supervisión y el ajuste del programa a medida que la investigación progresa. AID también ha contratado al Instituto para la Investigación en la Comunicación de la Universidad de Stanford para que conduzca una evaluación independiente. La evaluación incluye un estudio de unas 800 familias apoyado por estudios adicionales antropológicos, de mortandad y del personal de salud. La Universidad de Stanford está proporcionando a un especialista de evaluación de tiempo completo en cada país. La evaluación, que será dada a conocer por fases comenzando en 1983, se enforcará en los cambios efectuados a raíz de la programación en las prácticas de salud relacionadas con la diarrea infantil.

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MYTH 1: *Mothers can't be taught new skills like* ORT *quickly.*

FALSE. Mothers in Honduras and The Gambia *have* learned a new set of practices about diarrhea.

After eight months of campaign activities in The Gambia, the number of mothers using a sugar-salt solution to treat diarrhea rose from 3% to 48%.

In Honduras after one year, the number of mothers who had tried Litrosol (the Honduras ORT packet) rose from 0% to 49%. Sixteen months into the campaign, 61% of the mothers had tried it. What brought about this encouraging trend?

The answer is a unique combination of:
- Applied behavioral research.
- An aggressive marketing strategy.
- The dynamic, repetitive effect of radio and simple graphics reaching thousands of mothers regularly.
- the reinforcement of village-level teaching.

MYTHE 1: *Les mères ne peuvent apprendre rapidement de nouvelles méthodes telles que la* TRO.

FAUX. Au Honduras et en Gambie, les mères ont appris plusieurs nouvelles pratiques relatives à la diarrhée.

Après huit mois d'activités lancées dans le cadre de la campagne en Gambie, le nombre de mères utilisant une solution de sucre et sel pour soigner la diarrhée est passé de 3 pour cent à 48 pour cent.

Au Honduras, au bout d'un an, le nombre de mères ayant essayé le Litrosol (sachet de TRO du Honduras) est passé de 0 pour cent à 49 pour cent. Après seize mois de campagne, 61 pour cent des mères l'avaient essayé. Qu'est-ce qui a suscité cette tendance encourageante?

Elle s'explique par la conjugaison exceptionnelle de plusieurs facteurs:
- Recherche appliquée sur le comportement
- Stratégie agressive de commercialisation
- Effet dynamique, répétitif de la radio et de graphiques simples atteignant des milliers de mères à intervalles réguliers
- Renforcement de l'instruction à l'échelle villageoise

MITO 1: *No se le puede enseñar rapidamente a las madres nuevas destrezas como la* TRO.

1

FALSO. Las madres en Honduras y en la Gambia han aprendido nuevas prácticas para combatir la diarrea.

Después de ocho meses de actividades de campaña en La Gambia, el número de madres utilizando una solución de azúcar y sal para tratar la diarrea aumentó de 3% a 48%.

En Honduras, después de un año, el número de madres que había utilizado el Litrosol (el paquete para la TRO en Honduras) aumentó de 0% a 49%. Después de dieciséis meses en la campaña, el 61% de las madres habán utilizado el Litrosol. Qué factor fué el que influyó en este cambio positivo?

La respuesta está en la combinación única de:

- Una investigación de conducta rural
- Una estrategia agresiva de mercadotécnia
- El efecto dinámico y repetitivo de la radio y hojas volantes que se distribuyeron a miles de madres con regularidad y
- El apoyo de la educación sobre la TRO en los centros de salud

2

MYTH 2: *You can't reach villagers with educational material.*

MYTHE 2 : *On ne peut toucher les villageois avec des moyens didactiques*

FALSE. With a comprehensive distribution strategy and some creative ideas it is possible to deliver useful and inexpensive educational materials to rural villages.

Even though most Gambians cannot read, they did respond to graphic material, an instructional flyer, and radio programs which told them about a national "Happy Baby" contest. Two hundred thousand copies of a Happy Baby contest flyer, printed with color-coded mixing instructions, were distributed in almost all of The Gambia's 2,000 villages. Repeated radio programs led mothers who could not otherwise read through each panel of the color-coded graphic: "Eight Julpearl soda bottle caps of sugar, one Julpearl bottle cap of salt, three Julpearl bottles of water as clean as you can find..." The formula was repeated again and again. A contest judge visited selected villages on days announced on the radio. Any mother could win a prize—a plastic liter container or a bar of soap—by presenting an instructional flyer as an entry ticket and by mixing ORT correctly. Over the five-week contest, 11,000 women attended 72 village mixing contests. After nine months of the campaign, 70% of the women interviewed in The Gambia had a Happy Baby flyer.

In Honduras, over 150,000 posters and flyers were distributed along with almost 250,000 Litrosol packets during the first year alone. Within a year, 47% of the sample could read and describe at least one of the project posters.

FAUX. Même si la plupart des Gambiens ne savent pas lire, ils ne sont pas restés insensibles aux messages graphiques, à l'avis instructif et aux programmes radiophoniques qui leur ont annoncé un concours national du "Bébé heureux". Deux cent mille exemplaires de l'avis du concours en question, imprimés avec des instructions de mélange codées à l'aide de couleurs, ont été distribués dans la quasi-totalité des 2.000 villages gambiens. Des programmes radiophoniques répétitifs ont guidé les mères incapables de lire tous les volets du graphique codé en couleur : "Sucre : huit capsules de bouteille de soda Julpearl (bleu), sel : une capsule de bouteille de soda Julpearl (jaune), trois bouteilles Julpearl d'eau aussi propre que possible (rouge)...". La formule était répétée à maintes reprises. Un juge du concours a visité certains villages à des dates annoncées par la radio. N'importe quelle

MITO 2: *El material escrito no impacta a la población analfabeta.*

mère pouvait gagner un prix — un récipient en plastique d'un litre ou un savon — en présentant un avis instructif en guise de ticket d'entrée et en mélangeant la solution TRO correctement. Pendant le concours de cinq semaines, 11.000 femmes ont pris part à 72 concours de mélange villageois.

Au Honduras, plus de 150.000 affiches et avis ont été distribués en même temps que 250.000 sachets de Litrosol dès la première année. En l'espace d'un an, 47 pour cent de l'échantillon pouvaient se rappeler et décrire l'une des affiches du projet. Après neuf mois de campagne, 70 pour cent des femmes enquêtées en Gambie possédaient un avis "Bébé heureux".

FALSO. Aún cuando la mayoría de los gambianos no pueden leer, sí respondieron al material gráfico, a la hoja volante y a los programas de radio que les informaron acerca de un concurso nacional del "Bebé Feliz." Se distribuyeron, en casi todas las 2,000 aldeas de La Gambia, doscientas mil copias de una hoja volante referente al concurso del Bebé Feliz, impresas con instrucciones de la mezcla. Los programas de radio condujeron a las madres analfabetas, a través de cada sección de la hoja volante utilizando códigos de colores: "Ocho tapas de las botellas de refresco Julpearl de azúcar (azul), una tapa de la botella de refresco Julpearl de sal (amarillo), tres botellas Julpearl de agua tan limpia como sea posible (rojo)..." La fórmula se repitió una y otra vez. Un juez de concurso visitó las aldeas seleccionadas en los días en que los programas habían sido anunciados en la radio. Cualquier madre de esta aldea podía ganar un premio — una taza de plástico o una barra de jabón — mediante la presentación de la hoja volante como boleto de entrada y demostrando saber mezclar correctamente la TRO. A lo largo del concurso de cinco semanas de duración, 11,000 mujeres asistieron a 72 concursos locales del "Bebé Feliz".

En Honduras, solamente durante el primer año del programa se emitieron 29,000 cuñas radiales y se distribuyeron más de 150,000 afiches y hojas volantes junto con 250,000 sobres de Litrosol. Al final del primer año, 47% de las madres en la encuesta podían recordar en detalle por lo menos uno de los varios afiches del programa. Después de nueve meses en La Gambia, 70% de las mujeres entrevistadas tenían en su poder el afiche del "Bebé Feliz".

MYTH 3: *Research is costly and too abstract to help make practical decisions*

FALSE. Research for this project was crucial to identify what advice to give mothers.

The decision to use Litrosol vs. sugar and salt came from research conducted at the village level in both countries. The Ministries of Health in each country did not assume they knew what mothers thought about diarrhea, or what practices would be acceptable; the first research task was to answer these questions.

Early research was conducted with mothers on every aspect of diarrhea. Project staff joined mothers in their homes for hours during episodes of diarrhea to observe first hand what they did and to learn their opinions. They conducted in-depth interviews with health professionals at all levels.

Mid-course research provided feedback to change messages that were confusing, correct problems with the campaign, and to respond to concerns. For example, mothers wanted to know if they could give Litrosol with other medications, if adults could use it, if it worked with severe diarrhea. Radio was a practical channel to answer these questions accurately and quickly, before they became major obstacles to acceptance. Radio opened a dialogue. This kind of research—keeping in touch with the village level—was the most important factor in getting results.

MYTHE 3 : *La recherche est trop coûteuse et trop abstraite pour contribuer à la prise de décisions pratiques*

FAUX. La recherche menée pour ce projet s'est avérée cruciale pour déterminer quels conseils donner aux mères.

La décision d'utiliser le Litrosol plutôt que la solution de sucre et sel a résulté des recherches faites au niveau villageois dans les deux pays. Les Ministères de la santé de chaque pays n'ont pas supposé qu'ils savaient ce que pensent les mères au sujet de la diarrhée ou quelles méthodes seraient acceptables; la première tâche de recherche a consisté à répondre à ces questions.

La *recherche préliminaire* a été menée auprès des mères concernant tous les aspects de la diarrhée. Le personnel du projet est allé voir ces mères dans

leur foyer pendant des crises de diarrhée afin d'observer de visu ce qu'elles faisaient et d'apprendre leur opinion. Il a réalisé des entrevues approfondies avec des professionnels de la santé à tous les niveaux.

La *recherche à mi-parcours* a fourni la rétroaction requise pour modifier les messages prêtant à confusion, redresser les problèmes de la campagne et répondre aux préoccupations. Par exemple, les mères ont voulu savoir si elles pouvaient administrer le Litrosol en même temps que d'autres médicaments, si les adultes pouvaient s'en servir, si cela convenait en cas de diarrhée aiguë. La radio a constitué un moyen pratique pour donner une réponse rapide et exacte à ces questions avant qu'elles ne deviennent des obstacles majeurs à l'acceptation du traitement. La radio a permis un dialogue. Cette sorte de recherche—à l'écoute du village—a été le facteur crucial des résultats obtenus.

MITO 3: *El proceso de investigación es costoso y demasiado complicado para formular decisiones prácticas.*

FALSO. La investigación en este proyecto fue crucial para identificar qué consejo se les debería dar a las madres.

La decisión de utilizar Litrosol en lugar de azúcar y sal se derivó de la investigación conducida a nivel de la localidad. Los Ministerios de Salud en ambos países partieron de la realidad en la cual vivía la madre y buscaron prácticas aceptables a ellas; la primera labor de la investigación due la de identificar estas prácticas.

Se condujo una *investigación de base,* con madres rurales, acerca de cada aspecto de la diarrea. El personal del proyecto se reunió con las madres en sus hogares por horas durante los episodios de diarrea para observar directamente lo que hacían y para enterarse de sus prácticas. Condujeron entrevistas con profesionales de salud a todos los niveles.

La *investigación del monitoreo* proporcionó información para corregir problemas en la compaña y para responder a las inquietudes de la población. Por ejemplo, las madres querían saber si podían administrar el Litrosol con otros medicamentos, si podía ser utilizado por adultos, si funcionaba en casos de diarrea avanzada. La radio funcionó como el canal mas práctico para contestar estas preguntas rápidamente antes de que se convirtieran en obstáculos mayores para su aceptación. La radio abrió un diálogo. La investigación fue un instrumento para mantener contacto a nivel local y fue el factor más importante en el éxito posterior del proyecto.

3

4

MYTH 4: *Health workers are too busy treating patients to spend time teaching.*

FALSE. Forty-three percent of mothers using Litrosol in Honduras reported they learned how to mix Litrosol from health workers. In The Gambia, we believe health workers' influence was equally important. Why? Because the health workers in both countries were shown simple things they could do in the normal course of seeing patients.

A training chain was developed. Each newly trained health worker in turn trained 10 village volunteers to mix and administer ORT. Radio told mothers to seek out the village volunteers. The volunteers were given an instructional poster and a project flag to fly over their homes, identifying them as ORT helpers. The interpersonal support was in place.

A final factor in the success was the application of behavioral science to training of health providers:

- Short training courses targeted at key behaviors
- Praise for correct performance
- Rapid mixing contests to increase performance speed (the more rapid the performance, the longer the retention)
- Discrimination games to help trainees recognize common errors in mixing and administering ORT.
- Simple performance tests and trainer observations to detect problems

MYTHE 4: *Les agents sanitaires sont trop pris par le soin des patients pour s'occuper d'instruction.*

FAUX. Quarante-trois pour cent des mères employant le Litrosol au Honduras ont déclaré avoir appris comment mélanger le Litrosol par les agents sanitaires. En Gambie, nous pensons que l'influence des agents sanitaires a été tout aussi déterminante. Pourquoi? Parce que les agents sanitaires des deux pays ont appris les simples choses qu'ils pouvaient faire au cours d'une visite de patients.

Une chaîne de formation a été mise en place. Chaque nouvel agent sanitaire formé veillait à former à son tour 10 volontaires villageois, leur apprenant à mélanger et administrer la solution TRO. La radio disait aux mères de s'adresser aux volontaires villageois. Ces derniers recevaient

Number of Persons Trained Nombre de personnes formées Número de Personas Capacitadas	*physicians* *médecins* *doctores*	*health workers* *agents sanitaires* *trabajadores de salud*	*village flag representative* *repr. villageois munis de drapeaux* *mujeres con bandera*
Honduras Honduras Honduras	30	300	960
The Gambia La Gambie La Gambia	40	140	600

une affiche instructive et un drapeau du projet à mettre sur leur maison, signalant qu'ils pouvaient venir en aide concernant la TRO. Le soutien interpersonnel était donc en place.

Un dernier facteur de la réussite a été l'application de la science du comportement à la formation des prestataires de santé:

- Stages de brève durée visant les comportements clés
- Appréciation de la performance souhaitée
- Concours de vitesse pour la préparation des mélanges (plus la performance est rapide, plus la rétention est longue)
- Jeux de discrimination pour aider les stagiaires à reconnaître les erreurs communément commises dans le mélange et l'administration de la TRO
- Simples tests de performance et observation des stagiaires pour détecter les problèmes

MITO 4: *Los trabajadores de la salud están muy ocupados atendiendo a pacientes para dedicarle tiempo a la enseñanza.*

FALSO. Cuarenta y tres por ciento de las madres que habían utilizado el Litrosol informaron que ellas aprendieron cómo prepararlo por medio de los trabajadores de salud. En La Gambia, consideramos que la influencia de los trabajadores de salud fue igualmente importante. Por qué? Porque se le mostró a los trabajadores de salud actividades sencillas que podían añadir fácilmente a sus actividades rutinarias.

Seguidamente se estableció una cadena de entrenamiento. Cada trabajador de salud, recién capacitado, a su vez adiestró a 10 voluntarios de la localidad. Se le dió a los voluntarios un cartel de instrucción y una bandera del proyecto para que la colocaran sobre sus casas, la cual los identificaría como ayudantes de la TRO. Por la radio se les hizo saber a las madres que buscaran la bandera si necesitaban ayuda.

Otro factor que contribuyó al éxito del programa fue la aplicación de los principios de la ciencia conductual a la capacitación del personal de salud, tales como:

- Breves cursos de capacitación dirigidos hacia comportamientos claves
- Pequeños elogios por actuaciones adecuadas
- Concursos de rapidez de mezcla de la solución para aumentar la fluidez de la actuación individual (entre más rápida la actuación, mayor es la retención)
- Juegos de discriminación para ayudar a los participantes a reconocer errores comunes en la mezcla y en la administración de la TRO
- Pruebas sencillas y observaciones para detectar problemas

5 6 7

MYTH 5: *Radio entertains. It can't teach.* MYTH 6: *Posters attract attention, but people don't remember what they see.* MYTH 7: *Health workers are better teachers than radio or print.*

FALSE. The success of the Mass Media and Health Practices project depended on all three elements, in combination.

Radio alerted hundreds of thousands of Hondurans and Gambians multiplying the impact of every health worker, repeating and reinforcing instruction. For some individuals radio was their first contact with the new health message. In Honduras, radio taught mothers how to measure a liter using local bottles. In The Gambia, radio taught mothers to understand the mixing flyer. Instructional materials helped mothers recall what to do at the actual time of using ORT. These graphics were a constant, visible reminder. Neighbors and friends became interested because of the posters, flags, and flyers.

Radio programs and a sheet of graphic instructions probably would not have been sufficient. The health worker was crucial in providing credibility to key messages. But the issue is not which was more important, the media or the human messenger. The issue is that a system of communication integrating all three components worked so effectively.

MYTHE 5: *La radio distrait. Elle ne peut instruire.* MYTHE 6: *Les affiches attirent l'attention. Mais les gens ne retiennent pas ce qu'ils voient.* MYTHE 7: *Les agents sanitaires sont de meilleurs instructeurs que la radio ou les imprimés.*

FAUX. La réussite du projet est subordonnée à la conjugaison de ces trois éléments.

La radio a alerté des centaines de milliers d'Honduriens et de Gambiens, multipliant l'impact de chaque agent sanitaire, répétant et renforçant l'instruction. Pour certains individus, la radio a été leur premier contact avec le nouveau message sanitaire. Au Honduras, la radio a enseigné aux mères la façon de mesurer un litre en se servant de bouteilles trouvées sur place. En Gambie, la radio a appris aux mères à comprendre l'avis décrivant la procédure du mélange. Les accessoires didactiques ont aidé les mères à se rappeler ce qu'il fallait faire au moment de réellement utiliser la TRO. Ces graphiques ont constitué un rappel constant et visible. Les voisins et amis se sont intéressés au traitement sous l'effet des affiches, des drapeaux et des avis.

Les programmes radiophoniques et une feuille d'instructions graphiques n'auraient probablement pas suffi. L'agent sanitaire a joué un rôle crucial pour assurer la crédibilité des messages essentiels. Mais la question n'était pas de savoir si les médias étaient plus importants que le messager humain. Il s'agissait plutôt de montrer qu'un système de communication intégrant les trois composantes a agi avec autant d'efficacité.

MITO 5: *La radio entretiene. No puede enseñar.* MITO 6: *Los carteles llaman la atención, pero la gente no recuerda lo que ve.* MITO 7: *Los trabajadores de salud son mejores maestros que la radio o la imprenta.*

FALSO. El éxito del Programa de Comunicación Masiva Aplicado a la Salud Infantil dependió de la integración adecuada de los tres elementos arriba mencionados.

La radio alertó a cientos de miles de hondureños y gambianos, multiplicando el impacto de cada trabajador de salud, repitiendo y reforzando la instrucción. Para algunos individuos, la radio fue su primer contacto con el nuevo mensaje de salud. En Honduras, la radio le enseñó a las madres cómo medir un litro utilizando botellas locales. En La Gambia, la radio le

enseñó a las madres cómo interpretar la hoja volante que ilustraba la mezcla. Los materiales de instrucción ayudaron a las madres a recordar qué hacer en el momento real de utilizar la TRO. Estas gráficas fueron un recordatorio visual constante. Los vecinos y amigos se interesaron en el programa debido a los afiches, las banderas y las hojas volantes.

Los programas de la radio y las hojas volantes de por sí probablemente no hubieran sido suficientes. El trabajador de salud fue crucial para proporcionarle credibilidad a los mensajes claves. No se trata de saber cuál fue más importante, los medios de comunicación o el contacto humano, sino de subrayar la integración exitosa de los tres componentes.

8

MYTH 8: *Mass media is too expensive to be practical*

FALSE. But *you* have to decide. Cost is always a difficult issue. Costs vary greatly from one country to another. There is no real agreement on how to calculate costs for these projects. We feel the key costs questions are:

How else could I expect to reach as many as 50% of my total target population in only one year?

What new costs would I have to add to my existing budgets to carry out the activities described here?

What costs could I cover out of my present staff, travel, and materials budget?

What are the other benefits of such an approach? Greater visibility of the Ministry of Health? Increased acceptance of other health programs? Greater involvement of health workers in teaching and supporting patients? A set of materials which can be reproduced at much less cost in subsequent years?

To help answer these questions, the following charts give an idea of how much was spent in Honduras and The Gambia during the first year. Remember, these costs can change considerably from one country to another.

MYTHE 8: *Les médias de masse sont trop coûteux pour être pratiques.*

FAUX. Mais il *vous* appartient de décider. Le coût est toujours une question difficile. Il n'y a pas d'accord réel quant à la manière de calculer les coûts de ces projets. Nous pensons que les questions essentielles relatives au coût sont les suivantes:

De quelle autre façon puis-je espérer atteindre 50 pour cent de la population totale visée en une année seulement?

Quels nouveaux coûts devrais-je ajouter à mon budget actuel pour réaliser les activités décrites ici?

Quels coûts puis-je supporter à partir de mon budget actuel de personnel, déplacements et fournitures?

Quels sont les autres avantages liés à une telle approche? Une visibilité accrue du Ministère de la santé? Une acceptation plus prononcée des autres programmes sanitaires? Une plus grande participation des agents sanitaires pour ce qui est d'instruire et d'appuyer les patients? Un ensemble de documents qui peuvent être reproduits à moindre frais les années suivantes?

Pour faciliter la réponse à ces questions, les graphiques suivants vous donnent une idée des montants dépensés au Honduras et en Gambie durant la première année. N'oubliez pas que ces coûts peuvent varier considérablement d'un pays à l'autre.

MITO 8: *Los medios masivos de comunicación son demasiado costosos para ser prácticos*

FALSO. Pero *usted* tiene que decidir según sea su realidad. El costo siempre es difícil de definir, pues varía mucho de un país a otro. No existe una regla fija de cómo calcular los costos para estos proyectos. Consideramos que las preguntas claves de costos son:

De qué otro modo podría alcanzar cerca del 50% de mi población meta en solamente un año?

Qué costos adicionales tendría que agregar a mi presupuesto existente para llevar a cabo las actividades aquí descritas?

Qué costo podría cubrir con mi actual presupuesto de personal, viajes y materiales?

Cuáles son los otros beneficios de dicho acercamiento? Mayor visibilidad del Ministerio de Salud? Un aumento en la aceptación de otros programas de salud? Mayor involucración de los trabajadores de salud en la enseñanza y el apoyo de los pacientes? Un conjunto de materiales que puede ser reproducido a un costo mucho menor en los años subsiguientes?

Para ayudar a contestar estar preguntas, las siguientes cifras dan una idea de cuanto se gastó en Honduras y La Gambia durante el primer año. Recuerde que estos costos pueden cambiar considerablemente de un país a otro.

	Honduras Honduras Honduras	The Gambia La Gambie La Gambia
Pre-program Research Recherche de pré-programme Investigación Preliminar del programa	US $15,000	US $6,000
Campaign Campagne Campaña		
Radio/Radio/Radio	33,000	2,000
Print/Imprimés/Imprenta	42,000	19,000
Training/Stages/Capacitación	7,000	12,000
Mid-course Research Recherche à mi-parcours Investigación a Mediados del Transcuso	3,000	2,000
	US $100,000	US $35,000

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AED

ACADEMY FOR EDUCATIONAL DEVELOPMENT

PROJECT SUMMARY

RURAL SATELLITE PROGRAM WORLDWIDE

OBJECTIVE: To develop and field-test the use of communication satellite technologies to provide educational information and telecommunication services for rural development in developing countries.

DURATION: 1980 to 1985

SPONSOR: Office of Education, Bureau for Science and Technology; Office of Development Resources, Bureau for Latin America and the Caribbean, U.S. Agency for International Development.

The Academy for Educational Development is administering a five-year program, funded by the U.S. Agency for International Development, to promote the use of satellite technologies for communication services in support of such basic aspects of rural development as health care, agricultural improvement, adult literacy, and classroom education. The program represents a substantial effort by the United States to transfer to developing nations a range of appropriate, cost-effective communication technologies that will enable them to strengthen their total communication systems.

The Rural Satellite Program includes several full-scale pilot projects, each of approximately two years' operation, jointly designed and jointly funded by the U.S. and host country governments. Although individual projects are managed cooperatively during the initial phases, the goal is to transfer the management and operation of the projects entirely to host country personnel. A limited number of satellite earth stations installed in the host countries are helping the participating countries to develop the expertise that will enable them to provide ongoing operational satellite services in rural areas.

The pilot project in Indonesia is putting in place an audio teleconferencing system that will enable the campuses of the Eastern Islands University Association (BKS) to train new faculty, upgrade existing faculty capabilities, increase student access to basic science courses, and increase the availability of specialized faculty and library resources. The pilot project in the Caribbean region is providing an audio teleconferencing system to expand the education and outreach capabilities of the University of the West Indies. The Peru Rural Communication Services Project is establishing a satellite-based communication system to link seven rural communities with each other and with Lima.

The communication system has a public service focus, providing special services to development ministry personnel working in remote health posts, rural schools, and agricultural extension offices, as well as commercial telephone service. The Academy's management of the pilot projects includes supervision of the engineering subcontract for the design and installation of the hardware system, supervision of the equipment procurement process, and technical assistance for the development of software and appropriate applications of the communication systems.

In addition to the pilot projects that are testing the use of satellite communications in the field, the Rural Satellite Program includes several central activities conducted by the Academy's Washington, D.C., office. One of these central activities is the development of a series of policy studies analyzing the financial, technical, regulatory, and international environments within which developing countries must operate to obtain rural satellite services. The first policy study examines the satellite systems available for providing rural telecommunication services by satellite to developing countries. A second policy study examines the criteria and procedures that agencies use in funding rural telecommunication projects.

Training is another activity of the Rural Satellite Program. Centrally, the program has assessed the capability of academic, government, and business organizations to provide the type of training needed by program participants and representatives from other countries. The capabilities assessed range from development support communications to interactive telecommunication systems for social development services, to economic and technical analysis of satellite systems. The results of these assessments guide the training of project staff from each of the pilot projects in both technical and applications areas.

Information is the third area of central program activity. A resource library of some 1,500 documents for communication satellite applications has been assembled and catalogued to support the program. Uplink, a biannual newsletter, keeps program participants and observers informed about the program itself and about other satellite-related activities. Uplink is supplemented by press releases on current program developments. Special reports and audio-visual products describe the program, and questions are answered through an information service. The cumulative experience of the Rural Satellite Program will be examined at an international conference to be held at the end of the program's five years.

Rural Satellite Program staff also help to coordinate program elements being developed by other agencies. The Institute for Telecommunication Sciences in Boulder, Colorado, has been working with the program to develop a design for an earth station that will provide telecommunication service to rural areas effectively and economically. Also, working with AID's Office of Energy, NASA's Lewis Research Center has conducted research on using solar power to provide low-cost reliable electricity for small earth stations.

AED

ACADEMY FOR EDUCATIONAL DEVELOPMENT

PROJECT SUMMARY

CLEARINGHOUSE ON DEVELOPMENT COMMUNICATIONS WORLDWIDE

OBJECTIVE: To provide information and services to foster the application of appropriate communications technology to Third World development programs.

DURATION: 1973 - ongoing

SPONSOR: Office of Education, Bureau for Science & Technology, Agency for International Development.

The Clearinghouse on Development Communication is an international center for information and materials on communication technology supporting programs throughout the developing world in education, health, family planning, nutrition, agriculture, and community development. The Clearinghouse originally began in 1972 as the Information Center on Instructional Technology. From this beginning, it expanded the scope and nature of its activities to reflect the widening interest of development professionals in applying communication technologies not only in the classroom, but in all sectors of development.

Today the Clearinghouse on Development Communication links a worldwide network of over 5,000 development professionals, and provides regular, up-to-date analysis, reporting, reference, and referral services.

The ongoing information services range from a quarterly topical newsletter to technical information packages compiled in response to individual queries. The publications and services described below are made possible through contract support from the Agency for International Development.

- **Development Communication Report:** A quarterly newsletter that highlights issues and trends in communication applications for development.
- **Project Profiles:** Concise information provided to project planners on the use of communication technologies in development projects; available in English, French, Spanish, and Arabic. Currently over 70 projects are included and cross-referenced.
- **Information Bulletins:** Published on major development communication topics.

- **State-of-the-Art Reviews:** The latest and best thinking in a given area, resulting in:
  - -- Information packages and design services for seminars in development communication.
  - -- Media productions illustrating the role of communications in education, agriculture, health, etc.
  - -- Synthesis of research papers and planning documents relevant to a specific topic.
- **Referral List:** Institutions and individuals in the area of communications and development, categorized by country and professional interest.
- **Technical Information Service:** Tailored information packages provided in response to individual queries.
- **Resource Center:** 10,000 documents on communications, education, and development, as well as films, videotapes, and other illustrative materials on international development and communication. Outstanding features of the resource center are a selection of country-specific materials on communication, unpublished project research, and reports rarely found in other libraries or bibliographies. New materials on communications are added daily to the collection. A partial overview of the collection's organization follows:

Media

Radio	Computers
Satellites	Folk Media
Films	Video
Television	Audio Cassettes
Audio-visual Aids	

Content

Agriculture	Education/Nonformal Education
Nutrition	Health
Training	Population/Family Planning
Information Management	Research and Evaluation
Women in Development	Urban/Rural Development

Geographic Areas

By country or by region:

Africa	Asia
Latin America	Middle East

Audio-visual Library

Films	Videotapes
Audiotapes	Slidetapes

AED

ACADEMY FOR EDUCATIONAL DEVELOPMENT

PROJECT SUMMARY

WATER AND SANITATION HONDURAS

OBJECTIVE: To design and execute a community health education component for a rural water and sanitation project.

DURATION: 1981 to 1983

SPONSOR: Ministry of Health, Government of Honduras; Office of Education, Bureau for Science and Technology, U.S. Agency for International Development; U.S. Agency for International Development/Honduras.

Ministry of Health statistics set infant mortality in Honduras at 103 per 1,000 live births, and it is estimated that 80 percent of children under five years of age suffer from some degree of malnutrition. Gastric intestinal illnesses are highly prevalent, with some 24.4 percent of infant deaths attributed to diarrhea. Studies have shown a synergistic relationship between malnutrition and diarrhea. The findings suggest that improved water and sanitation facilities would result not only in reduced diarrhea incidence and infant mortality rates, but also in improved nutritional status among the under-five age group.

The contrast between rural and urban health conditions further strengthens the case for improving access to water and sanitation sources in rural areas. Some 78 percent of the urban population have access to drinking water facilities, and 49.7 percent have access to some means of human waste disposal. Comparatively, only 30.3 percent of the rural population have reasonable access to safe drinking water, and only 18.4 percent have access to basic waste disposal facilities.

The project involves four major activities:

- Expanding construction capabilities to permit installation by rural Hondurans of approximately 180 gravity-flow aquaducts, excavation of 3,000 hand-dug wells, rehabilitation of 800 wells and 50 piped water systems, and installation of approximately 18,000 pit latrines and 14,000 water-sealed latrines.

- Establishing functioning subproject maintenance systems.

- Developing and implementing educational activities to promote community participation, improved health behavior related to water and sanitation facility use, and systems maintenance.

- Training promoters and field agents to improve subproject implementation, supervision, and overall project monitoring.

The program includes:

- Recognition of outstanding village health workers.

- Recognition of active community projects.

- Announcement of local meetings and continuing education programs in which village health workers should participate.

- Radio programs broadcast directly to target audiences to promote selected health practices and to provide general support to the primary health care workers.

- Simple print materials for the target population which function as reminders of key concepts.

- Modulerized pamphlets for the primary health care workers and target population which function as a rural health library and reference guide.

The program is coordinated through the efforts of field promoters who are responsible for all phases of activities, including making initial community contacts, promoting the project, and obtaining assurance that the community provides the required volunteer labor, construction, and health education. The community participates in the decision to initiate the project, the selection of the technology, the scheduling of labor-intensive activities, instruction on system operation, and training for maintenance. A health education component is included in the project design to encourage adoption of improved hygiene practices.

The instructional development process relies upon past experience in mass communication and combines systematic preprogram research with experience drawn from such fields as social marketing and behavioral analysis. This process rests upon a clear understanding of the behaviors to be promoted; the personal, family, and community context in which these behaviors are elicited; and the ability of the instructional tools to promote widespread adoption of the selected behaviors.

AED

ACADEMY FOR EDUCATIONAL DEVELOPMENT

PROJECT SUMMARY

RURAL TEACHER TRAINING PROGRAM BOLIVIA

OBJECTIVE: To upgrade the quality of rural primary school instruction by improving the professional training of rural teachers.

DURATION: 1980 to 1984

SPONSOR: Government of Bolivia, Ministry of Education and Culture; U.S. Agency for International Development/Bolivia.

The Rural Education II (Teacher Training) Project of the Ministry of Education and Culture in Bolivia is a continuation of a comprehensive plan evolved by the Government of Bolivia to upgrade its educational system.

In response to a need identified in a 1972 assessment of the entire educational system, the Government of Bolivia began a series of programs to improve the quality of rural primary school instruction. As part of this overall reform, Rural Education I, an experimental three-year project, was launched in 1977 to upgrade the professional training of rural primary school teachers. This project and its experimental activities led to the development of the Rural Education II (Teacher Training) Project, a more extensive and wider-reaching teacher training project.

The Academy for Educational Development provides technical assistance to the project with two long-term advisors in LaPaz, one advisor in Tarija, and local short-term consultants supporting the project components. Assistance continues through December 1984.

Basically, Rural Education II is designed to upgrade the training of teachers in rural Bolivia. Traditionally, teachers at the primary school level are graduates of Institutes of Higher Education (teacher training institutes) or normal schools (teacher training colleges). The project works with six rural normal schools throughout Bolivia and the Institute of Higher Education (ISE) in Tarija to upgrade the training of professors at these institutions and to develop a teacher training curriculum that is relevant to rural learning needs.

Teachers at the primary school level are integrated into the overall teacher training process through the use of mobile teaching teams that provide in-service training to the primary schools surrounding each of the normal schools.

The project consists of five major components:

- **Teacher training**, including the training of professors of ISE/Tarija, of rural normal colleges, and of rural schools.

- **Teacher training curriculum**, concentrating on a general or basic core curriculum that can be used in all areas, and a specialized curriculum tailored to regional or area differences.

- **Instructional materials**, including teachers' guides, workbooks, graphics, and audio-visual materials, designed and produced for ISE/Tarija and the normal schools.

- **Facilities improvement**, encompassing new construction, remodeling, and equipping of the six rural normal schools.

- **Administrative improvement**, focusing on improved communication between the Ministry of Education and Culture and the institutions; development of modern administrative methods; and improvement of overall systems for planning, budgeting, personnel management, project monitoring, and research and statistical development.

Throughout the project, attention has been focused on exploring and increasing the role of the primary school teacher as a catalyst for community change. Participation in community events, encouragement of educational activities in the out-of-school community, and promotion of nonformal learning activities are some of the activities the project actively strives to develop.

AED

ACADEMY FOR EDUCATIONAL DEVELOPMENT

PROJECT SUMMARY

BASIC VILLAGE EDUCATION GUATEMALA

OBJECTIVE: To plan and implement an experimental nonformal education project designed to modify farming practices among rural populations through the effective use of radio, community monitors, and agronomists.

DURATION: 1973 to 1978

SPONSOR: Guatemalan Ministries of Education, Health, and Agriculture; U.S. Agency for International Development.

Basic Village Education (BVE) was a five-year experiment aimed at using communication media to acquaint Guatemalan farmers with modern agricultural practices. The project operated with Agency for International Development funding until 1978; since then, it has continued without external assistance. A technical assistance team consisting of educational specialists from the Academy for Educational Development and the University of South Florida worked jointly with Guatemalan colleagues of the Ministry of Education to alter farming practices.

A major objective of the BVE experiment was to test the cost-effectiveness of various combinations of communication media (radio, sound, flipcharts, illustrated booklets, etc.) used to supplement the work of a limited number of agricultural extension workers. This was a continuous component of the BVE experiment implemented by the Academy.

The BVE project consisted of two parts:

- A carefully controlled nonformal education program that did not require participants to be literate.
- A rigorous evaluation of the program's impact on the attitudes and agricultural practices of its target populations. Subsistence farmers constituted the primary target audience.

In 1973 the project was initiated among the Spanish-speaking Ladinos in the southeastern part of Guatemala. Roughly 18 months later the experiment was extended to include the western highlands, where it was directed toward the Quiche-speaking Indian population. In a survey conducted by the BVE staff in 1974, the illiteracy rate was approximated at 64 percent in the Yupiltepeque Valley of southeastern Guatemala, and at 66 percent in rural communities near Momostenango in the highlands.

Radio was chosen as the primary means of imparting the new agricultural knowledge and stimulating behavioral change. Two radio stations broadcast eight hours a day, from 5 to 9 a.m. and from 4 to 8 p.m., Monday through Friday. To attract and maintain a large listening audience, about 80 percent of the broadcast time was devoted to music, entertainment, and other programs unrelated to agriculture. The remaining time was devoted to agricultural topics. The core programming included a 30-minute "agricultural magazine," a question-and-answer interview with an agronomist, and 30-40 spots carrying agricultural messages.

The first of the four different communication treatments consisted of messages delivered by radio alone. The second added a village "monitor"--locally selected and trained for about a month--who weekly visited four or five villages that together consisted of approximately 200 families and who held late afternoon forums at which the radio messages were played on a cassette recorder. The monitor used flipcharts and posters to spark discussions, distributed take-home information sheets, and, in some cases, cultivated demonstration plots. A third treatment provided low-level technical assistance from agronomists, each of whom served roughly 600 families. The BVE field agronomist worked with monitors in the villages, conducted plot demonstrations, helped to identify local crop production problems, and advised farmers. He also served as the monitors' supervisor and trainer and was an important feedback channel from the field. The fourth treatment, added in 1975, employed monitors alone in areas not reached by the radio shows.

The BVE project has advanced the knowledge of the integrated use of modern communications technology in rural development programs. The project's operations systems, tested and refined throughout every phase, provided models adaptable for use in many other programs. BVE results also have yielded basic information about the affect of such programs on behavioral change, the determinants of such change, and the associated cost/benefit applications.

The Academy for Educational Development is one of the principal organizations working with nations and donor agencies seeking solutions to international development problems. Since its founding in 1961, the Academy has worked with hundreds of projects and thousands of professionals in education, agriculture, health, telecommunications, radio, television, vocational and technical training, and cultural exchange. The Academy has organized farmers' extension groups supported by specially designed radio programs, planned computerized information systems, and designed and installed radio and television studios. It has created university consortia to develop teaching and research faculties in medicine, engineering, architecture, and veterinary science. It has worked with telecommunication engineers to design innovative earth station hardware for satellite communications. And it has worked with user groups to design the applications of these technologies to meet the needs of rural people, educators, and government agencies.

Academy for Educational Development

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International Division

Academy for Educa
International Div

The Academy provides services under contracts and grants to training and educational organizations, government ministries, international assistance agencies, and individual institutions. Since 1968, much of the activity of the Academy's International Division, under the direction of Stephen Moseley, has been focused on direct collaborative assistance to governments of the developing world. The Academy has successfully completed or has in progress more than 745 programs in over 80 countries with a total value of more than $63 million. The nine areas described below are representative of the Academy's substantive scope. In each area, specific activities have been identified to illustrate the Academy's overall institutional capability.

Health/Nutrition Education

In its programs to promote improved health care the Academy has ● produced, tested, and aired more than 70 instructional radio programs for village women on the proper management of acute infant diarrhea ● developed specialized print materials for nonliterate audiences ● trained over 1,000 community health workers and over 200 physicians ● provided installation and funding for 2,000 demonstration latrines ● conducted epidemiological surveys ● designed and constructed new sanitation systems ● advised on national water and sanitation projects ● developed a national strategy for control of rural waterborne diseases.

Nonformal Education

Nonformal education, or education outside of the traditional classroom, has involved the Academy in ● supervising and supporting some 600 village volunteers in 500 rural communities ● creating and strengthening a national interinstitutional policy-making committee linking ministries and national agencies ● conducting workshops and seminars and producing training guides for extension workers on the design and testing of innovative methods and materials, including educational puppets, games, community models, and group dynamics ● producing and broadcasting instructional radio programs and supporting workshops for social studies, language arts, natural sciences, technical skills, health, and applied mathematics ● training Ministry of Education professionals to prepare, pretest, and evaluate instructional radio series, including in-service teacher training ● training rural radio monitors to supervise adult learning centers serving some 1,500 enrolled students.

Telecommunications

The role of telecommunications in international development is advanced through the Academy's work in ● planning, implementing, maintaining, and operating satellite projects in support of rural development education, health care services, and agriculture ● conducting policy studies on the financial, technical, regulatory, and international aspects of rural satellites in developing countries ● identifying the training requirements of satellite application projects, and surveying the training capabilities of educational and industrial institutions ● arranging project participants' training in satellite system planning, development support communications, interactive telecommunications for social development, and economic and financial analysis of satellite systems ● managing the design, implementation, procurement, operation, and maintenance of five satellite communication systems ● advising on research and development requirements for earth station development, renewable power sources, and peripheral technology ● managing an information resource that includes a library, audiovisual materials, a document search service, and print and audiovisual products on the uses of satellite communications for development.

Agricultural Education

The Academy has ● assisted in the development of an agricultural university faculty by arranging graduate degrees for training faculty at U.S. universities and overseeing their research at their home institution ● provided 40 expatriate faculty to teach courses and develop agriculture curricula ● procured specialized laboratory and field research equipment, plus technical books and journals, for six agricultural departments ● developed over 10,000 radio programs and original graphic materials to support agricultural messages on improved practices such as fertilizers, insecticides, and soil conservation ● conducted over 2,200 radio forum meetings, including crop demonstrations, with some 23,000 rural farmers.

tional Development ision Programs

Vocational/Technical Training

In applying its experience with vocational and technical training to the special needs for skills training in the developing world, the Academy has ● introduced self-paced, competency-based training systems to industry and government representatives ● prepared resource handbooks on competency-based training system design and evaluation ● organized demonstrations of hardware and software packages for vocational and technical training ● prepared lecture materials on software requirements on videodisc and microcomputer-based training technology ● conducted studies assessing industrial skills training needs ● reviewed facility design plans for vocational training centers ● designed curricula for trade schools.

Development Communication

The Academy has been a primary resource for over a decade in promoting the use of communications in international development programs. Among its accomplishments and activities in this field are ● a quarterly review of issues in development communication, distributed to 5,000 professionals in 130 countries ● profiles of 90 of the most significant projects in development communication worldwide ● an information service to a network of some 2,000 planners and practitioners ● communication planning activities through direct technical assistance to 30 countries ● seminars on development communication in Africa, the Caribbean, the Middle East, Asia, and the Pacific ● the production of films, videotapes, and supplementary print materials on exemplary development communication projects ● the supervision of masters and doctoral-level students in specially developed courses under a unique degree program in instructional technology ● procuring and installing complete broadcast quality television studios, broadcast radio studios, and professional filmmaking, photography, and graphics equipment ● identifying and procuring professional books and journals on instructional technology ● providing resident specialists in instructional systems planning, development, research, and engineering.

Formal Education

Inside the classroom, the Academy has collaborated in programs to ● provide direct English-language instruction in primary schools using radio ● write and produce approximately 500 new English-language radio lessons per year ● train personnel to continue specialized radio-based language instruction ● train rural primary teachers, normal school teachers, and professors of education in curriculum application and instructional materials design ● develop a mobile training team ● upgrade teacher training facilities ● develop core curricula ● design, equip, and establish nine decentralized educational development centers for administrative and instructional support ● organize and supervise participant training for rural teachers in U.S. universities ● design and install a national computerized educational financial management and personnel system.

International Exchange

Recognizing the importance of increased international understanding to the development process, the Academy has ● prepared comprehensive studies of U.S. organizations engaged in global education to promote intercultural and international awareness ● developed a major study on the world information order debate ● arranged traveling seminars for foreign visitors in fields such as journalism, filmmaking, and communication.

Higher Education

The serious shortage of trained professionals to advance development objectives has involved the Academy in major programs to expand and develop institutions of higher education, including ● the major planning of educational programs and physical requirements for a major new university ● developing innovative programs of university governance and administrative designs for university management and direction ● providing programs of in-service faculty development and cooperative faculty exchange in the areas of medicine, architecture, agriculture, and veterinary science ● developing and coordinating programs of joint research between American and Asian universities ● identifying, selecting, procuring, and installing specialized laboratory and research equipment ● developing libraries to support continued overall university development ● designing and implementing computer systems for instruction, research, and management.

SERVICES

The Academy offers a variety of specific services to meet the needs of individual programs. These services are provided directly to participating governments, or often through assistance from international donor agencies.

The Academy is able to:

Select, relocate, and supervise both long-term resident and short-term consultant personnel.

Organize and manage major institutional consortia.

Develop technical equipment specifications and provide complete procurement services.

Supervise and manage engineering subcontractors.

Prepare tailored planning and evaluation studies on selected projects and programs.

Coordinate the placement and supervise the academic programs of foreign students in top-level American institutions.

Identify and coordinate external review panels and oversight committees.

Produce film and video documentaries and develop and print technical reports and studies.

Organize specialized conferences, workshops, seminars, and in-service technical training programs.

Plan and implement programs of specialized visitor and cross-cultural exchange.

Develop technical information access and exchange systems.

Design management and organizational communication systems.

Design tailored educational software.

For information concerning the International Division contact:
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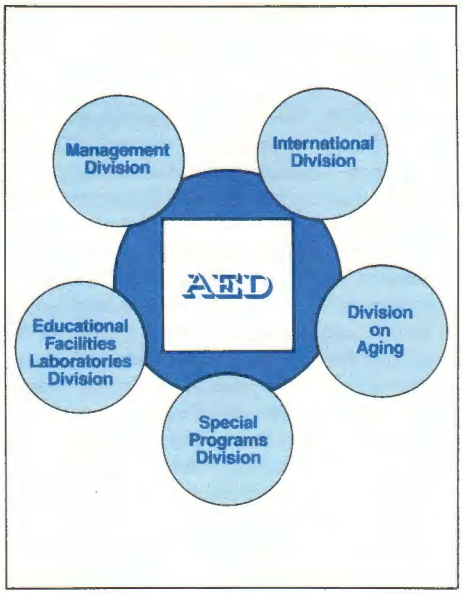
ORGANIZATION



The Academy is organized into five major divisions, including the International, Management, Educational Facilities, Aging, and Special Programs Divisions. Although each division is structured to allow for individual leadership, the Academy has always operated in a manner that promotes substantive contact and cooperation between the divisions.

The Academy has a permanent staff of over 120 executive, administrative, and support personnel, and 250 active consultants. Permanent offices are maintained in New York and Washington, and field offices are located in Honduras, Bolivia, The Gambia, Jamaica, Kenya, Swaziland, Saudi Arabia, Sri Lanka, and Indonesia.

During the past two decades the Academy has received financial support from a wide variety of agencies, both private and governmental, including: 75 foreign countries, including national ministries of education, health, agriculture, labor, national planning, and information; 3 major multilateral development organizations; 143 private organizations, including corporations and foundations; 61 agencies of U.S. federal, state, and local government; and 200 colleges and universities.

Photographs: (clockwise from bottom) preliminary design sketch for an Arab nation's college of communication arts; radio technician prepares instructional tapes for broadcast; Rural Satellite Program uses existing earth stations for rural communications; Kenyan student listens to programs broadcast as part of Radio Language Arts Project; Guatemalan farmer applies knowledge gained from Basic Village Education radio broadcast.

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AcademyNews

Academy for Educational Development

VOLUME 6 NUMBER 1 APRIL 1983

City High School Recognition Program in Progress

In December the Ford Foundation awarded a $1.5 million grant to the Academy for Educational Development to administer the Foundation's City High School Recognition Program. The program was started by the Ford Foundation in 1982 to identify urban high schools that have made significant improvements in their teaching and learning efforts in recent years, and to draw public attention to that progress. The Foundation's selection of the Academy is based in part on AED's growing interest in the improvement of secondary schools.

The 1982-83 program involves 21 of the nation's largest cities, encompassing 23 school districts. Within these districts 230 high schools meet the eligibility requirements for participation: enrollments of at least 30% low income students, a comprehensive general program, and no special entrance requirements for students. Of this number, 146 schools have submitted entry forms providing detailed descriptions and statistics on the schools' progress, such as test scores, attendance, teacher involvement, parent/community participation. Site visits by a team of educators will be made to each of the nominated schools, and reports of those visits will be submitted, verifying and supplementing the nomination forms.

In early April, Certificates of Recognition and Recognition Awards of $1,000 will be announced for as many as 100 of the schools. Those schools receiving awards will then have the opportunity to submit proposals for grants of up to $20,000 to support activities to enable them to continue the efforts already underway. Proposals will focus on continuing improvements in the academic programs within their own schools and also on developing joint activities with other local high schools and/or feeder schools.

An eight member selection panel will review and rank the proposals. The panel will be composed of two principals and a guidance counselor from three schools that received grants last year, a school superintendent, representatives from the National Association of Secondary School Principals and the Carnegie Foundation for the Advancement of Teaching, one of the site visitors, and a research authority on early adolescence. Grants to be awarded to 50 schools selected will be announced in June.


Ford Foundation
City High School
Recognition
Program

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In 1981, the Ford Foundation administered the program directly and targeted high schools in selected cities with populations ranging from 150,000 to two million people as eligible to participate under the same criteria. Nomination forms were submitted by 150 schools in 36 cities and site visits were made to each school. On the basis of information submitted by the schools and the site visitors, in May 1982 Certificates of Recognition and Recognition Awards of $1,000 were presented to 110 schools. Those 110 schools then submitted proposals to the Ford Foundation for one-year grants of $20,000 and in October the Foundation awarded $1 million in City High School Recognition Grants to 50 high schools in 30 cities to help the schools strengthen and extend their educational programs. Examples of activities that were funded include a peer counseling and tutoring program for students from the high school and its feeder school (Northern High, Baltimore); a program to improve study habits using volunteer tutors from the community (Carver High, Memphis); a project to help ninth grade teachers improve their classroom management skills (Murray-Wright High, Detroit); and a program in which master teachers offer individualized instruction in language arts and math (Luther Burbank High, San Antonio).

In announcing the second year of the City High School Recognition Program, Edward J. Meade, Jr., a Chief Program Officer of the Ford Foundation, said, "I am pleased that the Foundation is able to continue a program to honor the renewed sense of purpose to be found in many city high schools around the country. We were very encouraged by our findings of last year which is why we decided to continue the program in 1983 with the assistance of the Academy. The evidence we found of effective school leadership, of more orderly and purposeful school climates, of renewed emphasis on mastering basic skills, of committed teaching staffs, and of supportive parents suggests that a strong spirit of purpose and achievement is beginning to be felt in many cities of the country."

In acknowledging acceptance of the grant from the Foundation and of the administrative responsibilities for the program, AED President Alvin C. Eurich said, "The objectives of the City High School Recognition Program are compatible with our own ongoing efforts in the area of school improvement. We were pleased to see from the results of last year's program the extent of secondary school improvement efforts. The evidence suggesting that much of this was self-generating has particular significance. The recognition of such accomplishments is indeed timely, given the prevailing negative feelings toward the nation's high schools, especially in cities and the morale problem in secondary education generally."

Later this year research studies on the American high school will be forthcoming from such organizations as College Board, the Carnegie Foundation for the Advancement of Teaching, and the National Association of Independent Schools/National Association of Secondary School Principals. Preliminary reports indicate a less than promising picture of secondary schools across the country. The prospect of a negative diagnosis of the American high school is worrisome and calls for concerted attention from all sectors if the problem is to be solved. At the same time, it should be noted that in many cities where the schools are perceived to be places of failure, violence, teacher burnout and student drop-out, there are an impressive number of high schools in these same cities where principals are providing leadership, teachers are teaching, students are learning, and parents are not only concerned but involved. The Academy is glad to be part of a major program to identify those schools to recognize the improvements and to support the continuation of those efforts.

EFL Studying School Collaborations

EFL/AED is assisting the Charles F. Kettering Foundation in an exploratory study of local efforts to develop human resources and improve the quality of local education through joint efforts of public schools and business, industry, labor, cultural and religious institutions, and other community organizations. The study seeks to understand how collaborations are structured, financed and sustained, why and how they were initiated, who is involved, and what have been the results. It has two components: information gathering about communities where collaborations have developed, and establishing the roles that various national organizations are playing in support of collaborative efforts. The purpose of the study is to identify ways of achieving widespread and effective application of collaborative processes for strengthening public education in American communities.

The exploration was initiated by Kettering President David Mathews, who was Secretary of Health, Education, and Welfare in the Ford Administration. Phillips Ruopp, Vice President of the Kettering Foundation, serves as Project Manager. The study team includes Alan C. Green, Director of Educational Facilities Laboratories, and Diane M. Brede, a doctoral student at Teachers College, Columbia University, and a former community program administrator.

Telephone interviews and site visits seek to obtain a cross-section of perspectives on collaborative processes and programs in individual communities. The study team thus attempts to interview a variety of participants in local collaborative efforts: managers of particular joint projects, superintendents, school board members, representatives of Chambers of Commerce and involved businesses, principals and teachers, and representatives of citizens' groups, parent associations, and other community organizations.

Whenever possible, the team observes a collaborative project in action, such as a "release-time" employee teaching a particular curriculum unit in collaboration with the regular classroom teacher, or a group of teachers involved in a collaborative project planning session. In this way, the difficult and detailed challenges of designing effective educational collaboratives become more apparent.

Information on a variety of collaborative endeavors has been gathered from over 35 locations, including, for example, Indianapolis, Dallas, Cincinnati, and Baltimore. In addition, over the last three months, the study team has visited sites in San Francisco, Oakland, Houston, St. Louis, Minneapolis and St. Paul, Grand Rapids, Atlanta, and Pittsburgh.

EFL/AED is also looking into the roles that various national organizations are playing to encourage and support schools-business/community collaborations at the local level. In the course of study some 50 national organizations are being contacted to find out how they now — or might in the future — support collaborative efforts that strengthen public education and enhance local economic development. These organizations include education and business membership organizations as well as various nonprofit research and development groups. For instance, one of the fastest growing national membership organizations is the American Society for Training and Development which includes among its members human resource development and training directors for businesses and corporations. This group has two reasons to be interested in working with public schools. First, they are most concerned with the quality of the local manpower force being prepared by their local schools, the major source of new employees. Second, this group has special expertise and competency in training approaches, including the use of new technology in training, which they can bring to public schools.

Another example is the National School Public Relations Association whose membership is made up of public information and public affairs personnel from the school districts. It prepares materials and holds meetings on the subject of school and business relations. A parallel membership organization representing public information officers and public affairs persons from corporations is the Public Affairs Council. Eventually, these two organizations might undertake joint programs which focus on how, at the local level, business and schools can organize and conduct public information programs to help overcome what is often a negative public image of the local schools. A very active national education group, the Institute for Educational Leadership, has been preparing information and conducting forums around the country that explore ways to increase the effectiveness of joint projects. A nonprofit research group, the Center for Public Resources, has just completed a study and issued a report, *Basic Skills and the U.S. Work Force*. This foundation-supported work has received much national attention dealing, as it does, with the contrasting perceptions of business, labor, and public education concerning the preparation of high school graduates for the world of work.

At this interim stage, several observations can be made by the study team:

- A wide variety of motivations have caused business and education as well as other sectors of the local community to work together at the local level. Sometimes the collaborations are started in response to public school desegregation; sometimes they are sparked by the need to better articulate manpower needs and manpower training; sometimes the quality of public education as a key for future economic development is the initiating factor; sometimes it is business' concern with the effectiveness of expenditures for public schools; and sometimes enhancing the public perception of local public education is central. More often than not, it is some combination of all of these, and other motivations, that cause business and education within larger communities to develop mutually beneficial efforts.
- The actual programs that emerge from these collaborations also vary greatly. Much is being written about "Adopt-a-School," which is only one of many strategies. In-service and training programs for teachers, public information campaigns, student internships, school volunteer programs, small grants programs for teachers and parent groups and forums on educational issues, curriculum design and long-range planning are some other ways that the collaborations are manifest.
- This is essentially a local phenomenon that has developed in response to a set of local needs and local conditions. In fact, the underlying strength is in the special nature of each joint activity as it meets local needs and builds on local resources.

(continued on next page)

The Academy for Educational Development is now a participant in a prime example of school-business collaboration.

AED, through its Management and EFL Divisions, has been retained by the Greater Wilmington Development Council to assist in the information-gathering and analysis phase of the Council's Business-Education Partnership Program.

The comprehensive program, announced in January, will strengthen public education in New Castle County, Delaware, and create new strategies for using community resources to enhance public schools. The Council is a consortium of business and institutional leaders in the County.

The Academy will help GWDC to explore public perceptions of the schools, work with four area school districts to see where community involvement might be most effective, and examine other examples of school-business collaborative efforts that might be underway elsewhere in the nation.

In announcing the project, Irénée du Pont, Jr., GWDC Board Chairman, said, "In New Castle County, as in many metropolitan areas of the country, the corporate sector recognizes that good public education and positive public attitudes are essential to the economic health of the community. The schools play an important role in developing and maintaining a skilled work force in a rapidly changing and increasingly technical employment marketplace. They also play an important role in making communities desirable places to live and work. The health of our schools is essential to the health of our community."

(continued from page 2)

- The organizational structure also varies. Organization and coordination may be undertaken by staff in the central office of the school district, by the local Chamber of Commerce, and by a third party nonprofit organization, such as the Atlanta Partnership for Business and Education, and the Education Fund created by the Allegheny Conference in Pittsburgh.
- Although direct financial support is often important, the in-kind support provided by business through contributions of personnel, equipment, and time is by far the largest source of support.

In addition, moves towards institutional collaborations can be observed in joint proposals between institution, cross-institutional shared staff, school boards establishing a policy of collaboration or partnership and collaboration programs become part of local school building plans.

- Although collaborations are most visible in our cities, such as Atlanta, Pittsburgh, Houston, Dallas, St. Louis, and San Francisco, variations on the idea are to be found in many smaller cities and towns.

By summer, EFL/AED will have completed its field work and prepared reports and materials for the Kettering Foundation, including some suggestions about how the Kettering Foundation and other nonprofit organizations might, on a joint basis, help and encourage the further development of this important approach to strengthening local public education with the help of local partners.

Development Communication Report Wins Praise

One effect of the cost-cutting and budget tightening measures started by the present administration has been a close review and cost analysis of all publications funded and/or published by the U.S. government. The Academy is happy to report that *Development Communication Report (DCR)*, the quarterly newsletter published by AED's Clearinghouse on Development Communication and funded by the Agency for International Development's Bureau for Science and Technology, recently emerged from the annual publications review with flying colors.

The government's review procedure demands a rigorous publication analysis, a report detailing budgets, subscriber accounting, production breakdown, and the publisher's efforts to save money. "Our publication analysis was awarded the highest marks of any reviewed by the Communications Review Board. The document is currently being circulated as a model for publication justification reports," said *DCR* editor Heddy F. Reid. "This pleases us very much because it assures us of another year of publication for the newsletter, and another year of getting essential material out to our readers around the world."

The newsletter, distributed without charge to development and communications professionals in the Third World and at a cost of $10 per year to readers in the U.S. and other industrialized countries, features articles describing ways that communications (which may include anything from folk theater to audio cassettes to satellite applications) are used around the world for social and national development. Current circulation is around 6,000, with the Third World accounting for about two-thirds of the readership. Letters from readers around the world attest to the impact that *Development Communication Report* has on its audience.

Articles in the last two issues have covered Nepal's communications and extension campaign to halt deforestation; innovative crafting of puppet shows and slide shows to carry social messages to India; development of audiovisual materials to support the school system in Lesotho; practical guidelines for running radio listening groups in developing countries; design and manufacture of cloth posters for health and educational messages in Ghana and the Sudan; and a profile of a community radio station run by and for the Otavalo Indians in Ecuador.

Each issue also includes a number of pertinent book reviews, several short communications-related articles, and announcements of forthcoming international courses and conferences.

The Clearinghouse was established by the Academy ten years ago, when many of the developing countries were just beginning to experiment with media uses for development. Today, the CDC serves a worldwide interest in new uses of radio, television, and other mass media for development programs in health, agriculture, population, education, and other areas.

Botswana Workforce and Skills Training Project

The Academy for Educational Development has recently been awarded a two-year contract to implement the Botswana Workforce and Skills Training Project, funded by the U.S. Agency for International Development (USAID). Each year the project will bring as many as 56 students from Botswana to the United States to pursue bachelor's and master's degrees in American universities and technical institutions. The program will offer these training opportunities for both the public and private sectors. Management and public administration will be a priority training focus.

In addition, the Academy will recruit ten to twenty American technical assistance advisors to assume key professional positions in the government of Botswana while their counterparts are being trained. The principal ministries involved in the project are Agriculture, Commerce and Industry, Education, and Local Government and Lands.

The project will also emphasize in-country training programs for which short-term consultants will be hired to help in training design and implementation. The consultants will work with local institutions to assist them in upgrading their training capabilities. In addition, special short-term training programs in the United States and in other African countries will be supported.

Additional support for in-country training will come from Creative Associates, Inc., a Washington-based consulting company under subcontract to the Academy. Creative Associates has been working in non-formal education and training for USAID in Botswana and plans to provide a part-time training assistant for the project field office.

In addition, the Consortium for International Cooperation in Higher Education (CICHE) will provide advisory assistance in the selection of colleges and universities for long-term student placement, in defining appropriate training and degree programs within colleges and universities, and in the recruitment of long-term technical advisors.

The members of the Consortium are the National Association of State Universities and Land Grant Colleges, the American Association of State Colleges and Universities, the American Association of Community and Junior Colleges, the American Association of Colleges for Teacher Education, and the International Council on Education for Teaching.

The Academy's staff for the Botswana project includes Project Director, Allan M. Kulakow, AED Director of African Programs; In-Country Field Coordinator, David Benedetti, who recently returned from four years in Botswana; Director of Participant Training Services, Barbara O'Grady, assisted by Margarita Driscoll; and Business and Logistics Manager, Penelope Mitchell.

Approximately 40 U.S. institutions have indicated interest in taking part in the program, both for student placement and for the recruitment of short- and long-term technical assistance advisors.

The Academy would be pleased to hear from other institutions, technical training centers, and individual consultants. For further information, write to Allan M. Kulakow, Director of African Programs, AED, 1414 22nd Street, N.W., Washington, D.C. 20037.

International Division to Host Telecommunications Experts

This spring the Academy for Educational Development will take part in an unusual project that brings together two areas of strong organizational interest and expertise: international exchange-of-persons and telecommunications. For the project, which is jointly sponsored by the U.S. Information Agency (USIA) and the U.S. Telecommunications Training Institute (USTTI), the Academy's International Division will host a group of 25 senior telecommunications experts from around the world during a 38-day program in the United States.

Among the participants will be the Chief Scientist of Israel's Ministry of Communications, the Director of Development of the Sudan Telecommunications Corporation, the Manager of Satellite Programming for a Honduran television station, the Director of Telecommunications for The Gambia, a Senior Officer from Hungary's Post and Telecommunications Directorate, the Head of French Language Services for the BBC, and the President and Board Chairman of Tele-Liban of Lebanon.

The two sponsoring organizations have worked closely with the Academy, making full use of its expertise in telecommunications and international visitor programming, to devise an intensive and challenging program. It will begin with a meeting in San Francisco on April 4, where internationally renowned communications expert Dr. Wilbur Schramm will deliver the opening address. Discussions and presentations at Stanford University's Institute for Communications Research will follow, interspersed with visits to state-of-the-art communication industries in the area.

The next week's activities will be based in Anchorage, Alaska, where ALASCOM (Alaska Telephone Company) will host the project, discussing with the participants the multi-faceted aspects of communications systems in that state. ALASCOM is providing its corporate airplane to fly small groups of visitors to outlying communities, where they will have an opportunity to see public service applications of satellite systems in operation.

During the week of April 18, group members will be in Orlando, Florida, to attend the annual conference of the International Association of Satellite Users and a two-day seminar conducted by the USAID Rural Satellite Program staff of the Academy. The project concludes in Washington, D.C. with overviews of the federal and private sector roles in telecommunications policy, and meetings with trainers from American corporations that are participating in the U.S. Telecommunications Training Institute effort.

This project marks the first time such a large group of specialized telecommunications experts have gathered for a travelling seminar under the auspices of the International Visitor Program of USIA. The Academy joins enthusiastically in this effort and believes that such programs permit discussion of complex international issues in a unique format and environment.

Executive Search Program Expands

The Academy's Executive Search Program, under the direction of Dr. Ruth G. Weintraub, Senior Vice President and Director of Special Programs, is expanding not only the range of its services but the size of its staff.

On February 7, Nancy Archer-Martin joined the Academy as Associate Director of Special Programs. Ms. Archer-Martin comes to AED from Peat, Marwick, Mitchell and Company where she specialized in executive search consulting for higher education and non profit institutions. She received an A.B. from Mount Holyoke College and a master's degree from New York University.

Ms. Archer-Martin joins a part of the Academy that has, for ten years, conducted nationwide searches on behalf of college and university search committees. Nowadays, however, the department is called upon increasingly to place senior administrators in positions at special purpose institutions. This is a shift that Dr. Weintraub welcomes. "One sunny January morning, I walked through the exhibition hall of the remarkable Victorian building in Philadelphia known as the Pennsylvania Academy of the Fine Arts, and stopped to enjoy Edward Hopper's painting, "Apartment House." After ruminating that his was a singular voice, I was jolted back to reality, realizing that this pleasant morning museum trip was work, and was part of a happy assignment to help a search committee find a president for this museum. In a manner of speaking, I was studying the campus."

In addition to facilitative work being performed for search committees at the City Colleges of Chicago (Chancellor), Salem College (President), Polytechnic Institute of New York (Dean of Engineering), and Roosevelt University (Academic Vice President), the Academy is in the midst of searches for a new Executive Director of the PACE School (for exceptional children) in Pennsylvania, and, as noted, for a new President of the Pennsylvania Academy of the Fine Arts.

Archer-Martin

Weintraub

Dr. Weintraub says that the increasing diversity of the searches has demanded flexibility of herself and her support staff. She comments, "I have learned to move, in the course of a week, from abstractionism to robotics, from cost containment in medical education to interactive graphics, and from admissions marketing to negotiating an academic budget. In these stressful times, as managing a university or other non profit organization has become more complex, the request for external services, such as those we provide, has grown. We are small enough, and versatile enough, to be able to offer customized services to almost any search committee."

In addition to permanent placements, the Presidential Services Division of the Academy makes interim appointments, and has done so in the past by drawing on its own talent bank. To date, a number of colleges and universities have, through the Academy, received the temporary services of a seasoned administrator until a permanent appointee was named.

Staff News

On March 3, **Ruth G. Weintraub,** Senior Vice President, addressed the ACE NIE Group (American Council on Education-National Identification Program for Women in Higher Education Administration) at Hunter College. Her topic: Career Mapping and Transition.

Dr. Edward Green, anthropologist and social science advisor to the Ministry of Health, Kingdom of Swaziland, has been awarded honorable mention for his study, "A Knowledge, Attitudes, and Practices Survey of Rural Swaziland," by the Washington Association of Professional Anthropologists. Dr. Green is a member of the Academy's technical assistance team of the Rural Water-Borne Disease Control Project.

Ricardo Villeta, Vice President-Administration for the Washington office, received his B.S. from Georgetown University, not from George Washington University as reported in the November *Academy News*.

Clearinghouse to Assist Control Data Corporation

The Academy's Clearinghouse on Development Communication has been selected, along with ten other specialized development organizations, to work with Control Data Corporation in its pioneering effort to provide computerized information on development technologies to individuals, industries, organizations, governments, universities, and others with an interest in such fields as agriculture and food production, conservation, education, water, energy, and health. The DEVELOP data base will shortly be able to offer information in the field of development communication, thanks to the contributions of the Clearinghouse.

Abstracts of 1,000 selected documents from the Clearinghouse resource collection are being entered into DEVELOP during the one-year period of the sponsored research grant, and being monitored by Clearinghouse Acting Director Judy Brace, who is being assisted by in-house computer specialist Arlene Horowitz. Part-time support staff has been added to assist in the project.

As part of its ongoing information management program, the Clearinghouse had already developed a Thesaurus of Development Communication. This document is now serving as the vocabulary of control for the data base activities, and will provide all the communication descriptors with which users will be able to search the data base. Using the computer in the Academy's Washington office, the Clearinghouse can search material already in the DEVELOP data base, contribute to the DEVELOP network's conference on computers for development, and communicate with other members of the network through the network's electronic mail system.

For its primary audience of policymakers and program designers in Third World countries, the Clearinghouse anticipates that having access through the data base to information about past experiences and projects, as well as access to specialized institutions and individual experts, will ensure better, more effective development efforts, and will decrease the likelihood of duplication in research and project design.

Users in developed countries can directly access DEVELOP on an annual or hourly subscription basis, while developing country users are generally sent the results of searches done for them in this country.

Experimental Satellite Project in Peru

Since June 1982 the Academy has been working with the Peruvian National Telecommunications Company (ENTEL-Peru), with funding from the U.S. Agency for International Development (USAID), to conduct an experimental satellite telecommunications project in the eastern jungle department of San Martin. Until recently, telecommunications services have been virtually non-existent in this area and transportation has been impeded by the condition of the roads and the heavy seasonal rainfall.

As a potential major contributor to Peruvian agricultural development, the department of San Martin has recently been the focus of an ambitious program of the Peruvian government and foreign donors to develop the necessary commercial and public service infrastructure to make it attractive to investors and settlers.

In support of this effort, ENTEL-Peru is installing three communication satellite earth stations in key rural growth centers which will eventually be linked to four more isolated villages and the national telecommunications network. Public telephone call offices and a specially designed audio teleconferencing network for public service and commercial users are expected to be operational in mid-1983. ENTEL-Peru has signed formal agreements with the Agriculture, Health and Education Ministries, providing them with full access to the teleconferencing services for two years.

The Academy's role in the program is to advise ENTEL and potential users of the new system in the design of applications for the new teleconferencing system, which are expected to include development program management, in-service training for field workers, emergency communications, and commercial users.

An Academy advisor residing in Peru is working with a cadre of ENTEL staff to design, develop, and provide training and other assistance to participating public and private groups. From time to time, specialists will be brought in to work on problems of specific sectors. The Academy will also assist with dissemination of project results to enable other countries to benefit from Peru's experience. Teleconferencing terminal equipment, "bridges," and specialized test equipment are now being acquired.

USAID has signed a separate contract with Florida State University to evaluate the impact of the new telecommunication system on the delivery of services and regional development.

Further details may be obtained by writing to Peter L. Boynton, Director, Rural Communication Services Project-Peru, at the Academy, 1414 22nd Street, N.W.,Washington, D.C. 20037.

Changes at Bowie State College

Tickton

Twenty days after Bowie State College received a blueprint for the 1980s, which had been prepared by Sidney G. Tickton, Academy Vice President, and a small AED study team, the college announced that it would make available an array of new programs the Academy recommended and would establish a new computer center and evening law school. The new programs are meant to tap an expected increase in white collar and service employees in the college's service area in the next decade.

Officials of the college said that they plan to mount an aggressive campaign to check declining enrollment by reaching out to "nontraditional" students, especially older people and white collar workers who want to gain additional skills. Officials said that they will organize an Academy for Computer Training in about two years to provide hands-on training for a large number of students, mostly part-time employees of the government, business, and industry.

Ten new degree programs are planned, including a master's degree in computer technology and in nursing.

In commenting on the rapid adoption of the Academy's recommendations, F. Perry Smith, Jr., Chairman of the Board of Trustees of State Universities and Colleges (which oversees Bowie State) said that the Board recognizes that present trends are seriously eroding the ability of the college to play a vital role in the higher education system. The board has determined, in accord with Academy recommendations, that the present time is right for a major change in the direction and mission of the college.

Bowie State is a predominantly black college located in Bowie, Maryland, a suburb of Washington, D.C. Enrollment has dropped by nearly 30 percent since 1975 to 2,233 students this year. The Academy found that the college serves a six-county area which has a considerable number of industrial firms, many in high technology fields, as well as many government installations. None of these organizations has provided many adult students for the college. The new approach will be to offer them degree-credit programs at convenient times of the day or evening, on weekends, and, if necessary, at off-campus locations.

Teaching By Radio in Rural Africa

How can instruction in the primary schools be significantly improved without costly new teacher training or expensive new textbooks? This question is being answered by an exciting program in Kenya where daily radio broadcasts are used to strengthen and expand the English language instruction in the country's primary schools.

One-third of the 500,000 Kenyan children who enter primary school each year drop out after the third grade. Nearly half have dropped out by grade seven, the final year of primary school. A lack of adequate skills in the English language — the medium of instruction from the fourth grade on — is a primary cause of student drop-out, and improved English language teaching is a top priority of Kenya's Ministry of Basic Education.

Yet traditional improvements are costly. More than 40 percent of the 70,000 primary school teachers are untrained. Teacher training is expensive. Although there are some innovative programs for pre-service training of teachers and programs in the development of human and material resources to aid teachers, there is little in-service training, largely because of high cost. Traditional textbooks and expendable pupil materials are also costly.

Chumani school. 1st grade pupils participating in radio lesson with classroom teacher.

As one response to this need, Kenya has implemented a new pilot project to test the effectiveness of radio in teaching English language skills during this most critical level of basic education. The Radio Language Arts Project is a five-year research and development project designed to develop, implement, and test the effectiveness of a radio-based instructional system. The project uses radio to teach English as a second language in grades one through three. The end product will be an English-language series complete with 585 taped lessons, appropriate student tests, teacher orientation materials, and classroom observation and data-gathering procedures.

The project is being implemented by the Academy and the Ministry of Basic Education through the Educational Media Services division of the Kenya Institute of Education. It is based on the Academy's experiences of previous projects, especially the Radio Mathematics Project in Nicaragua, which conclusively demonstrated the capability of radio to significantly improve basic skills instruction in rural schools.

Photos: Philip Sedlak

Chumani school. 1st grade pupils demonstrating English sentences for class studying English by radio.

Although the project has been designed for specific application in Kenya, it is expected that the model which emerges can be replicated, with modifications, in other educational systems in the developing world. Supported by the U.S. Agency for International Development, it is one of a series of development projects which use radio in support of basic education.

These projects are developing models for teaching the primary-school subjects: mathematics (Nicaragua), language arts (Kenya), basic education (Dominican Republic), and science (still in the planning stages).

According to the project director, Maurice Imhoof, the first year of broadcasting has generated enthusiasm on the part of teachers and headmasters for teaching English by radio. Test data are now being analyzed for grade one pupils, but classroom observation and anecdotal evidence strongly support radio broadcasts. Teachers and project school headmasters recently broke into applause when it was announced that, contrary to earlier expectations, this year's grade one pupils will have a chance to hear the lessons by cassette.

Schiff Named College President

"Dr. Schiff's extraordinary educational qualifications, professional experience, commitment to Jewish life, and leadership qualities render him uniquely qualified to provide forward-looking leadership to Gratz College," said Gratz Chairman of the Board Stephen C. Sussman, in announcing the appointment of Gary S. Schiff as the College's new president, effective July 1.

To assume this new position, Dr. Schiff will resign from the Academy for Educational Development where he has been Executive Assistant to the President and Director of Program Development since 1978.

Previously, Dr. Schiff served as Assistant Professor of Jewish Studies and Political Science at the City University of New York, as Visiting Assistant Professor at Yeshiva University, and as Director of Middle East and Energy Affairs of the National Jewish Community Relations Advisory Council.

He received his B.A. and Bachelor of Hebrew Literature from Yeshiva University, and an M.A. and Ph.D. from Columbia University. His dissertation, *Tradition and Politics: The Religious Parties of Israel,* was published by Wayne State University Press to critical acclaim. Dr. Schiff has published widely on Jewish education and other aspects of Jewish life, on the Middle East and energy.

Gratz College is the oldest college of Jewish studies in the U.S. It offers graduate and undergraduate programs in non-denominational Jewish studies to some 1200 full- and part-time students at its campus in Philadelphia, as well as at satellite locations throughout the Philadelphia area. Gratz also serves as the central agency for Jewish education for Philadelphia, providing consultative services to Jewish schools of all types. In addition, Gratz maintains a preparatory high school program.

Selected Academy Publications

To order these Academy publications, fill in desired quantities in the boxes provided and complete the shipping information at the bottom of this order sheet. Return to: Publications Department, Academy for Educational Development, 680 Fifth Avenue, New York, NY 10019.

Campus and Community, reports on efforts of urban universities and colleges to aid the revitalization of their adjacent communities. Eight examples of town/gown collaboration and a sampling of strategies for affirmative involvement, from mortgage subsidies for faculty to improvement of mass transit stations to mixed use development.	$5	☐
Caring for the Campus Physical Plant, a report on the state of the campus physical plant today, the depth of the problem, its causes and likely solutions.	$8	☐
Energy Management for Human Service Agencies, a step-by-step workbook for administrators and board members of human service agencies to understand and analyze their use of energy and to develop energy management programs.	$15	☐
Facilities Planning for Small Colleges, a hands-on planning workbook for college administrators evaluating the need for facilities changes. This loose-leaf publication includes blank forms for institutional use and a completed sample for analyzing changes in enrollment, staff, educational program, expenditures, and the allocation, scheduling, and use of campus space. Also includes forms for gathering perceptions from various campus constituents and guidance on developing a planning process that encourages campus-wide debate of critical issues.	$10	☐
Movie Palaces: Renaissance and Reuse chronicles the transformation and restoration of ornate movie palaces dating from the first half of the 20th century to a variety of uses today. This lavishly illustrated book documents the history of the movie palace era and the renaissance of movie palaces as cultural facilities and catalysts for downtown renewal.	$11	☐
The Arts in Surplus Schools, advocates and documents the reuse of surplus schools as community cultural centers, working artist studios and showcases for arts, art schools, museums, home base for theater groups, and combinations of these.	$3	☐
Putting the Arts in Surplus Schools, a companion planning workbook to help arts organizations and school reuse committees determine space needs, assess the potential in surplus schools, analyze restoration and operating costs, and develop administrative arrangements for reusing surplus schools for the arts.	$5	☐
The Energy Conservation Idea Handbook, a compendium of imaginative and innovative practices in use at colleges and universities.	$5	☐
1982 Idea Handbook, a compendium of practices used by colleges and universities to attract and retain highly qualified young faculty.	$5	☐
The Secondary School: Reduction, Renewal and Real Estate, a report on the future of high schools in light of changing enrollment trends.	$4	☐

name

organization

address

city, state, zip code

All orders should be prepaid, and include $1 for handling and postage. ☐ Yes, I would like a complete list of Academy publications.

Preparing for the World of Work

Why is business unhappy with the work readiness of high school graduates? Which skills would business like to see given more emphasis in the high school program? How much emphasis should be placed on academic subjects and how much on vocational subjects?

Under contract to the College Board's Educational Equality Project, the Academy is developing answers to these and related questions. Meetings of school leaders and corporate human resource development officers are being organized by AED in Chicago, San Antonio, and Birmingham, augmenting dialogues already conducted in Los Angeles and Denver. In these one-day sessions educators and business managers focus on the specifics of basic academic competencies.

Schools, eager to upgrade the quality of their programs for all students, look to the outcome of this project to help them target areas where they should reinforce their curriculum emphasis for the larger number of students leaving school directly for the workplace.

The focus of the dialogue is on developing definitions of the specific skills students should acquire in the areas of writing, reading, mathematics, speaking and listening, reasoning and studying. Over 35 skills are being reviewed and modified through this dialogue process.

To date many of the nation's leading corporations have taken part in this dialogue process, among them Standard Oil of Indiana, Inland Steel, Sears Roebuck, Motorola, Blue Cross/Blue Shield, National Can, Illinois Bell Telephone, Hewlett Packard, Eastman Kodak, American Telephone and Telegraph, and Coors. The American Society for Training and Development, the 20,000 member professional association of human resource development managers, has also participated.

Inquiries about the academic competencies being studied should go to Rexford G. Moon, at the Academy's New York office, or to the Educational Equality Project, College Board, 888 Seventh Avenue, New York, NY 10019.

Feasibility Study

Educational Facilities Laboratories has in progress a four-month feasibility study among national officers of human service agencies to gauge interest in co-sponsoring, with EFL, Energy Management Workshops for their member agencies.

The study, funded by Exxon Corporation, continues EFL's earlier work in energy management for human service organizations. In 1979 EFL devised a manual, *Energy Management for Human Service Agencies,* which became an important tool used in the Energy Management Workshops that EFL, in conjunction with the National Assembly and United Way of America, conducted from 1980-1982.

Development of a sound energy management program for agencies is the goal of the Energy Management Workshops. The Workshops, which may be one-, one-and-a-half-, or two-day sessions, are designed to increase participants' understanding of energy and its management, so that they will be able to develop, implement, and maintain an energy management program that can reduce their agencies' energy consumption by as much as 20 percent in one year. Participants also gain an energy vocabulary, an understanding of how their agencies use energy, information on how to reduce consumption and anticipate payback periods for investment, and confidence in their ability to reduce energy consumption and cost.

Inquiries about the Energy Management Workshops, the development of independent energy programs, and the Energy Manual, should be directed to the study's coordinator, Elizabeth Gay, EFL/AED, 680 Fifth Avenue, New York, NY 10019.

Doings of the Directors

Robert O. Anderson, Chairman of ARCO, received the Flame of Truth Award on January 19 at a dinner given in his honor by the Fund for Higher Education.

ICED Chairman **James A. Perkins** has been appointed Executive Vice Chairman and Chairman of the Executive Committee of the National Council on Foreign Language and International Studies.

AED President **Alvin C. Eurich** has been named to the U.S. Council for World Communications Year 1983. He and other members of the Council had their first meeting with President Reagan in December.

On January 1, **John Brademas,** President of New York University, became Chairman of the Board of Directors of the Federal Reserve Bank of New York. He will serve a three-year term as a Class C director.

John Diebold received the Legion of Honor of France in late 1982. Mr. Diebold is Chairman of the Diebold Group.

Luther Foster, President Emeritus of Tuskegee Institute, has accepted the position of Chairman and CEO of the Moton Memorial Institute in Virginia. Mr. Foster is also serving on the Visiting Committee of the Harvard Business School, and on the Advisory Committee to the Third Class of Kellogg Fellows under the Foundation's National Fellowship Leadership Program.

Marie Davis Gadsden, Vice President and Director of the Phelps-Stokes Fund in Washington, will be facilitator/coordinator/escort for a 1983 team of five U.S. educators from the University of Massachusetts and Texas Southern University as they travel to Anglophone Southern Africa. She will introduce the U.S. specialists to officials in the Ministries of Education, Planning, and Development. The purpose of the visit is to promote development projects linking American developing communities and agencies with African institutions.

Gadsden **Iseman** **Perkins**

The Horace Mann League presented the Horace Mann Guardian Award on February 26 to **Fred Hechinger** for "his unique contribution to public education."

Joseph S. Iseman recently joined the Wake Forest College Board of Visitors.

On March 22-23, **David Mathews,** President of the Kettering Foundation, was a featured speaker at the McNaughton Symposium at Syracuse University's School of Management. His topic was Business, Government and the Policy Process. Mr. Mathews will address the annual meeting of the American Society for Public Administration on April 18 on the subject of the relationship between public service and citizenship in the 1980s and beyond.

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Academy Presents Awards to Ten Colleges and Universities

On June 2 at a dinner in New York's St. Regis Hotel, the Academy for Educational Development awarded a Certificate of Achievement and $5000 each to ten colleges and universities in recognition of their successful action to attract and retain highly qualified young faculty members. The awards were based on a six month nationwide effort, directed by Academy Vice President Sidney G. Tickton, to identify outstanding initiatives taken by colleges and universities to retain able young scholars who, because of the present economy, might give up academic careers and seek jobs elsewhere.

A small panel of educators reviewed materials submitted by 115 institutions that responded to the Academy's invitation to nominate appropriate programs, and ultimately selected programs at Brown University, Cornell University, Five Colleges, Inc., Gordon College, University of Illinois-Urbana, University of Michigan, Pennsylvania State University, Rensselaer Polytechnic Institute, Stanford University, and Yale University, to receive the awards and certificates.

An allied function of the nationwide study was the production of the *1982 Idea Handbook*, a compendium of the innovative measures in place at the 115 participating institutions. The examples included in the handbook describe (a) what the colleges and universities have done to encourage young faculty members to stay in academia, (b) how the schools did it, and (c) what the results have been. Most of the ideas are readily adaptable for implementation by other institutions; they range from simple approaches to comprehensive programs involving substantial outside funding.

The survey and awards addressed a serious problem now troubling institutions of higher education. Today colleges and universities are challenged not only by the lure of lucrative corporate jobs, but by the present economy and the dwindling funds allocated for higher education. These are not small challenges.

In such disciplines as the arts, the humanities, and many sciences, the total number of faculty positions is dropping, with this trend expected to continue downward for some time to come. With little or slow change forecast in the number of positions held by older faculty members, the present and prospective drop in employment is concentrated primarily among young people.

Although such expanding academic disciplines as engineering, business administration, and computer science are experiencing shortages of young faculty members, the reasons are different. Industrial and commercial firms in all sectors of the economy are paying people filling many junior professional positions at pay rates far above academic levels, and the disparity between academic and corporate pay scales is even greater than in the past. Today, academia no longer offers new faculty members the healthy prospects for long-term economic security and professional development that it once provided.

The Academy's hope, with the certificates, cash awards, and ideas handbook, is to share effective approaches and to stimulate the thinking and imagination of the educational community toward the creation of solutions to this critical problem. Without such solutions, academia risks losing a whole generation of its finest talent.

Serving on the Selection Panel for the project were Alvin C. Eurich, AED President; Robert Gale, President, Association of Governing Boards of Colleges and Universities; Gladys Hardy, Program Officer for Education and Cultural Affairs, the Ford Foundation; T. Harry McKinney, Professor, College and University Administration Programs, Michigan State University; Jack Peltason, President, American Council on Education; and Ruth G. Weintraub, Senior Vice President, AED. Assisting Mr. Tickton with the project was Stephen Barkanic, AED Program Associate.

A grant from the Atlantic Richfield Foundation funded the entire project.

The Academy began its Certificate of Achievement, Award, and Idea Handbook program in 1977 and since that time almost 100 institutions have been honored for their bold, creative responses to a variety of issues affecting the educational community.

Copies of the *1982 Idea Handbook*, published in September, may be ordered from AED's Washington office, 1414 22nd Street, N.W., Washington, D.C. 20037-1099. The price per copy is $12 prepaid.

Population Consortium Awarded Grant

The Academy for Educational Development is part of a consortium, headed by the School of Public Health and Hygiene of the Johns Hopkins University, that has been awarded a grant of $9.9 million from the Agency for International Development's Population Office. The consortium will provide five years of support to developing country population and family planning information, education, and communication programs. The Academy brings to the program over a decade of experience in assistance to developing countries in communications planning, program design, training, and evaluation.

Other members of the consortium are the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT), and Porter, Novelli and Associates (PN&A), both of Washington, D.C. PIACT, a non-profit private and voluntary organization, was founded in 1976 to improve contraceptive use by adapting family planning products and materials to meet national needs and preferences. It has been especially successful in developing print materials for nonliterate audiences. PN&A is a commercial advertising firm that has been active in social marketing, using advertising techniques in support of social programs.

The project will provide a broad range of support to family planning programs. The development, implementation, and evaluation of as many as 40 cooperative country projects in developing nations will be central to the effort, with emphasis placed on private sector family planning agencies. The project consortium will conduct needs assessments, provide technical assistance in project design and evaluation, and conduct regional and inter-regional meetings and workshops. A film and materials center will be developed at Johns Hopkins.

A subgrant of $1.5 million over five years will enable AED to play a significant role in the development of country projects and to take major responsibility for the program of workshops and meetings. Dr. John Middleton, Director of Technical Planning Services and Studies in the International Division, is the AED Project Director.

Brademas Elected to Board of Directors

The Academy is pleased to welcome to its Board of Directors Dr. John C. Brademas, President of New York University and former Majority Whip of the U.S. House of Representatives. Brademas, nationally known as a champion of legislation for education and the arts, served 22 years in Washington from Indiana's Third District. A member of the House Education and Labor Committee and its Subcommittee on Postsecondary Education, Select Education and Labor-Management Relations, Dr. Brademas played a principal role in drafting most major legislation involving elementary, secondary, and higher education, vocational training, the elderly and the handicapped, and in generating federal support for libraries, museums, and the arts and humanities.

A chief architect of the National Institute of Education, Dr. Brademas was also a major sponsor of the Higher Education Act of 1972 and the Higher Education Amendments of 1976, as well as the Education for all Handicapped Children Act; the Arts, Humanities, and Cultural Affairs Act; the Arts and Artifacts Indemnity Act; the Older Americans Comprehensive Services Amendments of 1975; and the Museum Services Act which created the Institute of Museum Services.

Born in Indiana in 1927, Dr. Brademas graduated from high school in 1945. After service in the Navy, he was a Veterans National Scholar at Harvard where he was elected to Phi Beta Kappa. From 1950-53 he studied as a Rhodes Scholar at Oxford University, receiving the degree of Doctor of Philosophy in Social Studies in 1954.

As Executive Assistant to Adlai Stevenson in 1955-56, Dr. Brademas was in charge of research on issues during the 1956 Presidential campaign. Prior to entering Congress he was Assistant Professor of Political Science at Saint Mary's College in Indiana.

Today, in addition to his post as President of NYU, Dr. Brademas serves as a member of the Committee for a Study of National Needs for Biomedical and Behavioral Personnel of the National Research Council and on the Committee on Relationships between Universities and the U.S. Government of the National Academy of Sciences. In 1980 and 1981 he was appointed by Speaker of the House Thomas P. O'Neill, Jr. to membership on the National Commission on Student Financial Assistance.

Dr. Brademas is a member of the National Council on Foreign Language and International Studies, the Commission on African Refugees, and the Commission on Higher Education and the Adult Learner of the American Council on Education. His memberships also include the Council on Foreign Relations, the Trilateral Commission and the Century Association. He is a fellow of the American Academy of Arts and Sciences.

Among the numerous honors bestowed on Dr. Brademas was his selection in 1980, along with Eubie Blake and Leonard Bernstein, as one of the first three recipients of the George Foster Peabody Award for Outstanding Contribution to Music in America. Nineteen colleges and universities have awarded him honorary degrees.

Dr. Brademas is married to the former Mary Ellen Briggs, a physician, currently a resident in dermatology at the New York University Medical Center.

Tunisia Technology Transfer

The Academy has entered into an agreement with the Tunisian Ministry of Higher Education and Scientific Research (MHESR), in cooperation with USAID/Tunisia, to facilitate transfer of technology to Tunisia.

AED will provide access to the American technological community; other functions of the project include a study of manpower requirements in technical skills areas; placement and follow-up of Tunisian students in U.S. universities in engineering and related disciplines; exchange of faculty members; enhancement of Tunisian technical institutions' training capacity, and development of their curricula and instructional methods; and the promotion of joint U.S.-Tunisian research projects.

Assistance to MHESR also includes assistance to the Tunisian Scientific Mission and University Bureau (MUST) through the development of a management information system that would assist the Bureau in documenting status and progress of Tunisian students in this country. Development of institutional linkages between U.S. and Tunisian universities is a major goal of this agreement. Such activities as official exchanges symposia, conferences, and faculty exchange will be undertaken.

The project is a component of the Economic, Technical and Related Assistance Agreement between the governments of Tunisia and the United States.

EFL Assists Citizen Planning Committee

A Midwest citizen advisory committee is reviewing how their high school district can respond to pressures of declining enrollment and racial imbalance while retaining program strength, and has sought the Academy's assistance.

Educational Facilities Laboratories is serving under contract to the Board of Education as advisors and facilitators to the citizen committee—the Thornton Township High Schools Facilities Task Force—in the Chicago suburb of Harvey, Illinois. EFL is helping the Task Force to structure its planning effort over a five-month period, to define the issues and goals towards which it is working, to determine information needs and gather and analyze data, and to develop and examine options for the district.

"This is an exciting role that EFL is playing," says Project Director Ellen Bussard. "It allows us to bring our expertise to bear, while ensuring local determination of issues and solutions. Citizen committees, working alone, often flounder about searching for ways to get organized. On the other hand, we as outsiders could never hope to know as much about the community as local residents."

So far, EFL has organized information subcommittees and developed data-gathering work plans. School district administrators have provided the data on enrollment, educational program, facilities, and community demography, and EFL is assisting the subcommittees in analyzing the information. EFL helped set up the structure for a series of meetings with community organizations to solicit wider citizen input, and the "Public Pulse" subcommittee selected the organizations and conducted the meetings.

After the Task Force develops and analyzes options, EFL staff will draft a report for Task Force review and modification. In the end, the Task Force — local citizens — will be the experts on Thornton Township High Schools and the Task Force will submit its report to the school board.

"EFL will have helped the Task Force to conduct a professional study by focusing their efforts productively. Unlike consultants, who would conduct a study as their job, involved citizens have numerous commitments, so efficiency of effort is especially important," comments Ms. Bussard. "When we leave, we will leave behind a core group of knowledgeable citizens who can work toward implementation and who will have credibility. The school board has shown trust in the community by permitting the Task Force freedom of operations. In our opinion, this is citizen participation at its best."

Academy Active in Satellite Use for Development

Satellite technology is now integral to almost all forms of communication, and during the last ten years AED has become a leader in using it to deliver basic public services to isolated areas of developing countries. Over the next five years the Academy will sponsor the Rural Satellite Program, supported by the U.S. Agency for International Development, to demonstrate and develop the potential of two-way communication by satellites to improve the availability of food, health, family planning, employment, and education services in rural areas.

Until recently, provision of telecommunication services to rural regions has been difficult and costly. Ground-based technology requires the laying of many miles of wire or cable and other expensive or unreliable radio technologies to reach remote areas. Cables and radio equipment are hard to maintain in harsh climates or difficult terrain, and frequently require power supplies that are expensive and awkward to provide in remote places. However, the Academy's Rural Satellite Program believes that satellite communications can make a difference in overcoming these problems. Satellite programs are constantly evolving and soon will make reliable, affordable communications possible in many isolated places.

The first two developing countries selected to participate in the Rural Satellite Program are Indonesia and the West Indies.

The Indonesian Rural Satellite Project, initiated in June when AED signed an agreement with the Indonesian Ministry of Education and Culture, will establish an audio teleconferencing system enabling the far-flung campuses of the Eastern Islands University Association to share and upgrade their teaching resources. The 30-month project includes technical assistance and training in the use of satellite audio teleconferencing techniques. A system linking three or four of the campuses is expected to be ready for initial course and program offerings in Spring 1983, and the full system will be operational in September 1983.

The shortage of trained faculty, particularly in the basic agricultural sciences, and the growing number of students in the region, demands not only the training of new faculty and the upgrading of existing faculty, but also requires innovative approaches to university teaching. Physically moving faculty members from campus to campus to meet teacher shortages, as is done at present, is not only expensive but time-consuming and disruptive. An augmented audio teleconferencing system, linked by Indonesia's PALAPA satellite, is a means of improving significantly the availability and quality of university education.

On May 18, 1982 the Academy's RSP pilot project in the West Indies was begun. A new satellite-based audio teleconferencing system at the University of the West Indies will greatly expand UWI's ability to provide education, agricultural extension and development-related services to its campuses in Jamaica, Barbados, and Trinidad, and some extension centers in the Caribbean region. The system will enable first-year students in the territories served by the system to take university courses in their home communities. Agricultural information also will be more easily available to the less developed islands in the region.

Applications Management staff for Rural Satellite Program led by Douglas Goldschmidt, Associate Director, and Anna Casey-Stahmer, Director.

The University will use the pilot system to develop its distance education services in three main areas: *extension studies,* courses for credit toward a degree; *extramural studies,* special non-degree courses; and *extension services,* agricultural development and information distribution. The extension studies will emphasize the courses offered under UWI's Challenge examinations program which allows qualified students not in attendance at a UWI campus to sit for examinations in mathematics, economics, and accounting.

In-service training will be offered for nurses and other health professionals, teachers, and those in business and public administration. The system will also make it possible for the university to capitalize on the Trinidad campus' special resources in agricultural extension, education, research, and technical support. University faculty and development professionals can use the system to conduct regular in-service training and to provide technical information.

During the next five years, four to six other developing countries will be selected to participate in AED's Rural Satellite Program.

Primary Health Care in Honduras

How can primary health care personnel working in isolated villages around the world win the confidence and support of the local villagers they serve? The Academy has embarked on an ambitious program to use mass media to answer this question in Honduras.

The government of Honduras recognizes clearly the need to develop paraprofessional health resources in rural villages throughout the country. The U. S. Agency for International Development is helping the government expand its primary health care program and has asked AED to provide 18 months of specialized technical assistance. The Academy will work with the Health Education Unit of the Ministry of Health to develop a series of radio programs and print materials that provide specific information and regular promotional support to the primary health care volunteer. The goal is to give villagers specific health advice on critical problems such as infant diarrhea, malaria, vaccination programs, and respiratory infections. At the same time, radio and print media will be used to create a positive image for the young health care volunteers returning to a village where they are not always recognized as experts.

This program builds upon a growing AED interest in international health and expands the existing commitment to a similar program in The Gambia and one for infectious disease control in Swaziland.

Telecommunications Training Institute Launched

In a uniquely cooperative venture, the American telecommunications industry and federal government agencies have established the U.S. Telecommunications Training Institute (TTI). TTI has, in turn, contracted with the Academy's International Division to provide facilities as well as advisory and management services during the first year of Institute operation.

TTI is an unprecedented response to the call for private sector contributions to international development. Sponsoring companies will provide free, on-site training to more than 300 developing country telecommunication executives and senior technical staff during 1983 through fourteen programs coordinated by TTI. The initial curriculum includes such courses as switching systems, basic telegraphy, satellite communications management, broadcast management, and spectrum management.

In addition, the private sector has provided core funding for the administrative operation of the Institute. The initial corporate sponsors are American Telephone & Telegraph Company (AT&T), COMSAT, General Telephone and Electronics International (GTE), Hughes Aircraft Company, MCI Telecommunications Corporation, TRT Telecommunications Corporation, SCS Telecom, Inc., Harris Corporation — Broadcast Division, International Business Machines (IBM), International Telephone and Telegraph (ITT-COINS), The Western Union Telegraph Company, Rockwell International Corporation — Collins Transmission Systems Division.

Officials from the U.S. Department of Commerce and the Federal Communications Commission will help administer the Institute in Washington, D.C. The U.S. Information Agency will assist in recruitment and placement of trainees.

Additional financial support and pledges for future corporate training are being sought; such funding would also help underwrite subsistence and travel costs of program participants.

The formation of TTI was announced in Washington on September 21 by Ambassador Michael R. Gardner, Chairman of the U.S. Delegation to the Plenipotentiary Conference of the International Telecommunication Union (ITU), held in Nairobi, Kenya September 28-November 5. Gardner praised the private sector for "its spectacular affirmative response to the government's request that the United States do more than any nation in the world to continue to share its telecommunication advances with the people of developing nations." He further indicated that the Institute's 1983 training courses would be discussed with the 157 member nations of the ITU during the meeting in Nairobi.

Since then, responses to the Institute from delegates at the ITU Conference in Nairobi have been extremely positive, and a number of countries have inquired about Institute training programs. In addition, the Institute has been invited to send a representative to the Third Latin American Symposium for Telecommunications Training to be held in Lima, Peru in late November, to discuss Latin American telecommunications training initiatives.

Ambassador Gardner is Chairman of the TTI Board of Directors. The Board's other members are Joseph Charyk, President, COMSAT; Mark S. Fowler, Chairman, Federal Communications Commission; Robert Gressens, President, GTE International; William McGowan, President, MCI; Robert Sageman, President, AT&T International; Harrison Schmitt, U.S. Senator, New Mexico; William Schneider, Jr., Undersecretary of State for Security Assistance, Science and Technology; Charles Z. Wick, Director, U.S. Information Agency; and Bernard Wunder, Assistant Secretary of Commerce for Communications and Information.

Academy efforts on behalf of the Institute are being led by John Middleton, Director of Technical Planning Services and Studies, with oversight from Anna Casey-Stahmer, Vice President for Telecommunications Applications.

The Telecommunications Training Institute is seen by its sponsors as a possible long-term project. Courses for 1984 and permanent training sites are under consideration. The 1983 program will be offered at the training facilities of corporate sponsors.

Further information is available from the Telecommunications Training Institute, 1414 22nd Street, N.W., Washington, D.C. 20037.

Auburn at Salem College

"I consider this appointment both an honor and a challenge. Salem College has a rich heritage which can benefit tomorrow's students as it has benefited its students since 1888," said Dr. Norman P. Auburn, Academy Senior Vice President, at a news conference held June 21 in Clarksburg, West Virginia to announce his appointment as Acting President of Salem College.

The six-month appointment, which began July 1, was announced by Cecil H. Underwood, Chairman of the Salem College Board of Trustees. Dr. Auburn succeeds Dr. James C. Stam, President of the College since 1978, who resigned in early June.

To his new post Norman Auburn brings a superior record of experience in higher education and in transitional administration. President of the University of Akron for twenty years (now President Emeritus), he has, in addition, served as Acting President of four other institutions: Polytechnic Institute of New York; Stephens College, Missouri; Cedar Crest College, Pennsylvania; and Union College, New York. This summer Dr. Auburn completed a term as Senior Vice President and Provost of Widener University in Chester, Pennsylvania.

"My aim will be to provide the leadership on a temporary basis to help Salem College serve its 1982-83 student body effectively, to plan for changes to be instituted with the 1983-84 school year and to establish an atmosphere which will prove attractive for a new President," Auburn told the audience of local civic leaders, college officials, and media members gathered for the announcement.

Salem College has recently set itself a new course. Last year the Board of Trustees rewrote the bylaws of the college in an effort to modernize and restructure the institution. A $500,000 matching grant from the Claude Worthington Benedum Foundation, also announced June 21, will substantially assist the college in its proposed development efforts. This reorganization, in part, grew out of an Academy study that examined the curriculum, administration, and the mission of the college in light of new national and regional demographic and economic trends. Dr. Auburn was a participant in that study.

Project Adopted by IBM

International Business Machines announced this summer that it will invest several million dollars in a large scale effort to test Writing to Read, a computer-based program to teach writing and reading to kindergarten and first grade pupils. The program was developed seven years ago in Florida by John Henry Martin. AED has sponsored the project since 1979 with support from Dr. Ben Wood who advocated, a half-century ago, the use of the typewriter in teaching children to read.

The experiment in learning tests the theory that children should be taught to read by first being taught to write. Dr. Martin and his wife, Evelyn, applied their theory to more than 900 five and six year olds with such encouraging results that IBM adopted the program and began testing it in September in rural and urban schools in seven states; over 10,000 kindergarten and first grade pupils will be involved.

The Martins' premise is this: five and six year olds speak in compound and complex sentences with vocabularies of 2000 to 4000 words. Building on this relatively large vocabulary, the children are helped to develop their writing and reading skills through various simple oral exercises and language enhancement games.

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Development Communications Studies and Seminars

The Academy for Educational Development is under contract to the Office of Education, Bureau for Science and Technology, of the U.S. Agency for International Development to plan and implement a series of studies and seminars on the use of communications technology in national programs of social and economic development. The program's record of accomplishments includes:

- stimulating the development of a National Rural Information System in Liberia,
- developing a preliminary plan to use satellite communications to support instruction and administration in Indonesian universities, now being implemented by the AID Rural Satellite Program, and
- increasing awareness, among the Sahelian nations and international donors, of the potential of communications technology to address many of the region's problems.

Some of the program's recent activities are summarized below. Further information can be obtained from the program's director, Peter L. Boynton, Senior Program Officer in AED's Washington office.

Al Hundley discusses instructional radio recording techniques during Gambia seminar.

Radio in Support of Rural Primary Health Care. In January, AED consultants went to Pakistan to work with the AID Mission and the Ministry of Health to assess how radio broadcasting can be used for the continuing education and training needs of mid-level and community health workers. The study was broadened subsequently to include recommendations on the use of two-way radio for logistics coordination and supervision and management of field health workers.

Rural Health Services in Pakistan are now being organized into a multi-tiered health care delivery system, which needs better communications to function efficiently and to ensure that less well-trained health workers in remote parts of the system get enough training and supervision. AED recommended a series of local pilot projects that would use VHF radios to link the most basic units of the system, through an intermediate service tier, to the more fully staffed central District Health Offices. In addition, the Academy's consultants recommended broadcasting, over Radio Pakistan, continuing education programs for medical technicians and community health workers. The programs would then be dubbed onto cassettes for further dissemination.

A similar study was conducted later in Ecuador, in conjunction with an AID-supported integrated rural development program, which includes support of agriculture, education, and infrastructure investments, and health care in targeted areas.

In Ecuador the communications requirements of two sites were assessed and a report was prepared on the technical utilization and evaluation needed when pilot projects in health communications are conducted.

A Resource for Media Production and Training. The creation of a national Center for Development Communications was the focus of a seminar held in Gabarone, Botswana in April. Representatives from the Ministries of Agriculture, Health, Education, and Information, five guests from Swaziland, and others met to plan the Center, which will serve as a media production and training resource for government agencies that disseminate development information.

The Academy provided technical assistance in organizing and conducting this seminar, which was hosted by the Ministry of Education. Allan Kulakow, Director of African Programs for AED, led the team that included specialists in radio scriptwriting, formative evaluation of broadcast education programs, and radio production techniques.

Technical workshops on radio program production and evaluation occupied the final two days of the five day program, after which the Academy's resource staff stayed a second week to discuss specific communication needs with interested ministries.

The seminar concluded that further local training of Ministry and Radio Botswana staff in media design, development, and radio production would be the top priority in seeking additional short-term funding to develop the Center. In time, support for the program may come through an agreement between the International Communication Agency, AID, and the Government of Botswana to support communication training, in return for permission to establish a new Voice of America transmitter in Botswana.

Improved Radio Production. Radio Gambia hosted the National Seminar on Development Communications, June 7-19, in Banjul, The Gambia. The seminar aimed to increase the variety and quality of instructional programs broadcast by the national radio station. Participants included representatives from eight government agencies, the Ministry of Information, and Radio Gambia.

The seminar was planned and conducted by a team of instructors provided by the Academy, and led by William A. Smith, Vice President and Associate Director of the International Division. For the first time in a program of this type, the Academy was able to draw on the resources of National Public Radio (NPR) through Al Hundley, production consultant to NPR's Educational Programs Division.

The Gambia seminar required the elaboration of distinct instructional objectives and the design of lecture, demonstration, and experiential sequences to accomplish these. By the end of the program, participants were expected to be able to:

- develop a systematic program plan,
- write radio scripts for three program formats,
- develop a pre-test questionnaire and conduct a pre-test review,
- collect useful field recording material, including field interviews,
- transfer sound from cassette to reel-to-reel format, and
- prepare an evaluation plan and design questionnaire to determine program impact.

The team left behind specific recommendations for technical development of Radio Gambia and for improving content of instructional broadcasts.

An immediate beneficiary of the enhanced skills of Radio Gambia personnel will be the AID Mass Media and Health Practices Project administered by the Academy, in cooperation with the Ministry of Health. This project, designed to use communications in a campaign to treat and prevent infant diarrhea, relies heavily on Radio Gambia for message production.

EFL-Texas Involved in Multiple Projects

Projects in progress at AED/EFL's Austin, Texas office extend from inventory and evaluation of all schools in a district, and even a state, to long-range plans and educational specifications for small public school districts and private schools in several states and Mexico.

Educational facilities administrators, realizing the importance of instituting management concepts, are turning frequently to AED/EFL as a ready source of assistance to them.

The Dallas Independent School District, for example, recently asked EFL to develop an inventory and information system for them; the goal is to move Dallas to a facility management system that intelligently reacts to questions relating to capital investments. The 200+ school sites in Dallas are being inventoried and evaluated using survey instruments developed by EFL. More than 1800 separate items, including floor and site plans, are being entered in the District's computer. The information, which includes demographic data, energy use, and space utilization, can be randomly accessed. Included, too, is an evaluation process that permits a numerical comparison among schools based on a maximum rating of 1000 points which considers site, structural, and mechanical features and educational features by area.

Other districts have adapted the Dallas program for their own use. Still in the planning stages is a project which would involve a complete state evaluation and inventory.

Some recent projects of particular interest include:

- Educational specifications for two schools for the Chippewa Indians on the reservation at Red Lake, Minnesota. The Ponemah Elementary School will replace an outmoded facility for 160 eligible children in K-6. The Red Lake Junior-Senior High School will serve grades 7-12 for approximately 320 students.
- Educational specifications for the American School Foundation of Monterrey, Mexico, a replacement school for a facility serving early childhood through high school. Specifications are written to permit an orderly growth from 1600 students to an ultimate enrollment of 2400.
- A two-phase study for the Smithville, Texas, Independent School District. The first phase was an evaluation of space needs; the second phase developed educational specifications for all schools in the district.
- A survey of facilities for present and future needs for the Kinkaid School, a private school in Houston.
- A survey of current and future facility needs for the Copperas Cove, Texas, Independent School District. A special analysis of the relationship between the Fort Hood Military Post population and the Copperas Cove enrollment was necessary.
- A new "magnet" school in Dallas. This proposed facility will bring various magnet programs together that are now scattered about the city in old or temporary facilities. Representatives of the business community and educational specialists are involved in the planning process.
- A series of facility planning workshops in cooperation with the University of Texas School of Education.
- The direction of a 64-person community advisory committee to the Tucson Unified School District. This year-long project resulted in more than 60 specific facility-related recommendations to the school administration.

This is not a complete list of current projects but does indicate the scope of work in EFL's Texas office, which will enter its fourth year in 1983. The office is under the direction of Ben E. Graves, Vice President of AED and Director of Field Services for the EFL Division, and is located in the Texas Association of School Administrators Building, 1101 Trinity, Austin, 78701.

Rex Moon in New AED Post

Rexford G. Moon, Jr., AED Senior Vice President and Director of Studies from 1965-77, has returned to the Academy after an extended leave of absence. Mr. Moon has spent the past five years at the College Board where he served first as Managing Director of the Future Directions for a Learning Society Project and later as Advisor to the President, aiding in the development of a ten-year initiative by the College Board to raise the quality of American secondary education through curriculum renewal, school-college-business linkages, improved teacher and administrator training and development, and through school and system evaluation.

Now as AED Executive Vice President, Mr. Moon will bring additional strength in these areas to the Academy's team of professionals and will continue to work with postsecondary institutions and systems on broad-based planning, management, personnel, public service, curriculum, and enrollment problems. With the additional title of Director of School Programs, he will also be concerned with helping the Academy build and renew its links with the nation's schools and school systems, the focus of much current attention because of issues relating to testing, curriculum emphasis and quality, adequacy of funding, personnel training and development, declining enrollment, school safety, and public image.

Increasing Professional Competence

The School of Engineering at The Cooper Union for the Advancement of Science and Art recently completed a three-year project, funded by the National Science Foundation, to increase students' abilities to perform competently as professional engineers. AED/EFL has documented that project.

Engineering education at The Cooper Union, as at other schools of engineering, traditionally has emphasized scientific and technical subjects and individual work by students. From the perspective of professional competence development, equally important are defining and selecting approaches to problems (problem-solving), understanding the values affecting choice of problem solutions and implementation (values clarification), learning to make compelling oral and written presentations to colleagues and clients (communication), and working successfully as members and leaders of engineering teams.

In eight existing courses in The Cooper Union curriculum, faculty members sought to integrate competence development without sacrificing academic course content. Volunteers from three successive entering classes took the "competence version" of these classes during their stay at the school.

Educational Facilities Laboratories has prepared three reports for distribution: a brief highlights report, a longer project description, and a compendium of materials developed for specific courses.

The EFL reports describe the project and modifications made to courses—such as study guides and assessment manuals, greater use of oral student presentations, videotaping, and team assignments. They further discuss major project findings, answering such questions as

- How appropriate and useful were the individual competencies introduced?
- How did students and faculty react to course modifications?
- Operating within the basic structure of a traditional engineering curriculum, what proportion of a student's courses should emphasize professional competence development, and how should these courses relate to the rest of the academic program?

Copies of the reports are available from The Cooper Union, 41 Cooper Square, New York, NY 10003.

Management Division Update

The magnitude of change sweeping the country today has resulted in unprecedented challenges to educational institutions. The Academy's Management Division, under the direction of Andrew H. Lupton, is dedicated to helping colleges and universities find practical answers to those challenges while helping them identify and pursue new opportunities.

Institutional Planning. The Management Division has worked with community colleges, private colleges and professional schools to design, develop and install planning tools that aid in understanding the changing environment and the alternatives available to the institution. A number of planning and analytical tools have been developed by the Management Division that combine knowledge of the campus decisionmaking process with the capabilities of the microcomputer.

With their emphasis on an understanding of the needs of key decision-makers and of the environment of higher education, the tools that have emerged are practical and useful. Using the inexpensive, reliable and flexible capabilities of microcomputers, the Management Division's tools can examine, in a matter of minutes, the probable results of various decisions and environmental changes. The initial reaction to these tools has been favorable.

Reorganization. Over the last decade, there has been a tendency among academic institutions to develop a nonacademic workforce which consumes approximately half of the operating budget. In many instances, such growth has been the result of complex bureaucratic requirements imposed by outside agencies. However, the Academy has found that careful consideration of organizational structure can realize significant economies and permit reallocation of funds for instruction, research, and public service.

In assisting a number of clients, Management Division staff have developed approaches to streamline the organization, improve and accelerate communications, and simplify decisionmaking. The approaches call for structured staff development initiatives to ensure that effectiveness and quality are protected while efficiency is increased.

Endowment Management. With support from the Richard King Mellon Foundation and IBM, the Management Division is undertaking a national study of ways to improve the endowment management process while responding to the current fund income requirements.

The Academy will work with 20 representative institutions to define how they set policies, establish spending plans, select and evaluate managers, and will examine the institutions' rate of return against a series of benchmarks.

This study will be completed in Spring 1983 and its results will be disseminated in a series of seminars and in a detailed project report.

Corporate Education and Training. An important phenomenon in America is the changing nature and growth of formal education and training in the country's corporations. With support from the National Institute of Education, and in collaboration with the University of Pennsylvania, the Management Division is conducting a detailed examination of these activities.

The focus of the analysis is threefold. First, the project will define the scale, scope and method of delivery of this education and training from the perspectives of the employer and the employee. Second, by conducting a number of detailed case studies in several industries, the project will define how corporations decide who will receive what type of education and training, when in an employee's career he or she will receive training, for what purposes, and how corporations decide whether they wish to provide training using their own staff or wish to identify providers in the educational sector. Finally, the project will assess the effect these corporate decisions have on higher education.

The result of this endeavor will be a publication that gives a detailed overview of current and emerging trends in corporate education and training as well as a detailed description of how corporations make investment decisions in these areas.

The Greater Wilmington Development Council. The GWDC, a consortium of major business and institutional leaders, has, as its primary role, provision of assistance to the Public Education District in Newcastle County, Delaware. The GWDC has selected the Management and EFL divisions of the Academy to help provide analyses and to develop strategies which will enable business to make substantive contributions toward improving the quality and image of public education in Delaware.

Villeta Named Officer

Ricardo Villeta, who came to AED in 1975 as a Research and Administrative Assistant, this past June was elected by the Board of Directors to the office of Vice President for Administration, Washington office. Mr. Villeta moves to his new post from the position of Director of Administration which he has filled since 1980. Prior to that he served as Personnel Administrator and Office Manager in the Washington office from 1976-80. Before joining the Academy Mr. Villeta was an Intern at the American Council on Education.

A 1975 graduate of George Washington University with a B.S. in French, Mr. Villeta is now an MBA candidate at George Washington University where he expects to receive his degree in Spring 1984. His concentration is finance and investments.

Mr. Villeta, a native of Puerto Rico, lives in Washington with his wife, Nancy Harding.

News of Academy People

David Mathews

Gerald Ford

David Mathews, AED board member and president of the Kettering Foundation, announced on September 18 that **Gerald R. Ford,** former U.S. President and current chairman of AED's Board, will co-chair the Domestic Policy Association's Closing Leadership Conference to be held at the Ford Presidential Library in Ann Arbor in February 1983. Former President Jimmy Carter will also co-chair the conference; both Presidents are expected to present major addresses on domestic policy issues during the Leadership Conference.

The Award of the Order of Achievement of Lambda Chi Alpha was given to **Norman Auburn,** AED Senior Vice President, on August 14 at the fraternity's 39th General Assembly Leadership Seminar.

Faud K. Suleiman has been named Director of Middle East Programs in the Academy's International Division. Dr. Suleiman is former Vice President for University Relations and Development at Central State University in Ohio and Consultant in Higher Education Planning to the World Bank.

John M. Middleton has been named Director of Technical Planning Services in the Academy's International Division. Dr. Middleton recently returned to AED's Washington office from Indonesia where he was Field Team Leader for AED.

A meeting of the Aspen Institute for Humanistic Studies was held in Stockholm, Sweden June 16-20 and was attended by Academy board members **Thornton Bradshaw, James A. Perkins,** and **Joseph Slater,** AED President **Alvin Eurich,** and Chairman Emeritus **Robert O. Anderson.** The meeting's theme was The Nordic Countries: Past, Present, and Future.

Recent Publications

A new book chronicling movie palace reuse projects nationwide, and exploring the potential of America's movie theaters as an important national asset, has just been published by AED/EFL, in cooperation with the National Endowment for the Arts.

Movie Palaces: Renaissance and Reuse was written by Professor Joseph M. Valerio of the University of Wisconsin-Milwaukee School of Architecture and Urban Planning, and Daniel Friedman, a graduate of the school and co-director of the school's 1978 symposium, "Movie Palaces of the 1920s and 1930s." Nancy M. Ambler, EFL Project Director, edited the book. Funding for *Movie Palaces* was provided by the National Endowment for the Arts Design Arts Program.

From 1915-1945 more than 4000 movie palaces, and thousands of other smaller theaters, were constructed at every major crossroads in America. *Movie Palaces* suggests that those that did not fall prey to the wrecker's ball in the 1950s and 1960s are as important today as in Hollywood's Golden Age, and with good reason. First, as an important building type of the 20th century, they represent a fusion of architectural design, economics, entertainment, and technology. Their calculated bravura belies their attention to detail, ingenious use of space, and pragmatically-inspired function.

In addition to their importance as a building type, movie palaces can serve as a living focal point for preservation advocacy, and in countless cities they are doing just that. Whether restored or renovated for use as performing arts centers, anchors for downtown redevelopment, or commercial investment, America's movie palaces have realized their potential of being more than a museum for the curious few.

In his Foreword, NEA Design Arts Program Director Michael J. Pittas calls the publication "well researched, judiciously edited, and beautifully produced." The book should indeed realize its intent: to increase awareness on the part of architects, engineers, theater designers, planners, community organizations, individuals at all levels of government, and private developers of the potential of adapting movie palaces and smaller theaters as cultural facilities, commercial magnets, and catalysts for downtown renewal.

The book is divided into three parts. Section one discusses the social and economic history of the movie palace. Case studies, reflecting various programming options for theater renaissance, form section two. The third section, which profiles the lessons of the case studies, includes planning guidelines for theater economic feasibility studies, organizational structures, and funding packages. A comprehensive resource list of organizations and an annotated bibliography supplement the text.

Movie Palaces: Renaissance and Reuse is paperbound, 120 pages, includes 74 black and white photographs and 21 drawings, and is available for $11 from Educational Facilities Laboratories, 680 Fifth Avenue, New York, NY 10019.

The City Colleges of Chicago Face the 1980s: A Five Year Look at Faculty Personnel Practices at 31 Urban Community Colleges, a 1982 AED study prepared under the direction of Ruth G. Weintraub, is now available on microfiche from Educational Resources Information Center. Copies may be ordered from ERIC, Document Reproduction Service, Box 190, Arlington, VA 22210.

Anderson in the News

On May 4, Robert O. Anderson, AED's Chairman Emeritus, stepped down as Chief Executive Officer of Atlantic Richfield Company, a post he has held for 17 years. He will, however, continue as ARCO's Chairman.

On September 19 Mr. Anderson signed a contract in Peking with China's National Offshore Oil Corporation, making Atlantic Richfield the first American oil company to win offshore drilling rights in China. The contract, which runs for 25-35 years, includes major provisions for training Chinese workers and a transfer of technology.

IBM *(Continued from page 4)*

The Writing to Read program seeks to match the quality of their speech with their increasing ability to write and then read. The computer requires children to speak words and their phonemes with frequency, and includes the use of chant and rhythm. There are also computer games using the typing of words; winning demands writing the words correctly. Other sequences introduce children to reading through a computer controlled pacing to increase comprehension.

However, the computer phase of the learning program amounts to only one quarter of the class. The rest of the time, the children develop their writing skills with workbooks or listen to recordings of children's classics while following the text.

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Quebral and Middleton: Some Thoughts on Development Communication, Past, Present, and Future

One of the rewards of working in the Clearinghouse is the opportunity to meet and talk with many of the international visitors who come to use the Clearinghouse collection. We were delighted in July to welcome Nora Quebral from the Philippines.

During her stay in Washington, Dr. Quebral, along with John Middleton, then of the Academy's Washington staff, and DCR *editor Heddy Reid, took time to reflect on development communication as a field, discussing its past and speculating on its future. We present excerpts from that discussion here.*

HR: Could we begin by discussing where development communication came from, and how the discipline got started?

NQ: When I'm asked that, I always talk about development communication Los Baños style, because I think development communication as a field of study may have begun differently in other countries. In Los Baños, where I work, it really came from agricultural communication, which is very much related to agricultural extension. It has broadened out from agriculture, taking in other areas where communication concepts and skills are useful. Areas like population, education, nutrition, health, environmental care, which are the priority problems, really, of any developing country.

JM: One of the interesting aspects of agricultural extension as a parent of development communication was that originally it was used to link the agricultural university research stations with farmers.

There were both sides to the issue—there was an ongoing research program such as the one at Los Baños, and the job of the extension system was to translate research findings into useful information for farmers and to provide feedback from the farmers to the research center. It was a very strongly organized and balanced kind of system.

Other fields in development communication are different—for example, health communication or population communication—because they haven't had a similarly strong research base for generating new knowledge. Therefore they have had rather different sorts of communication formats, and the messages consequently have been simpler. And I think that's part of the reason why the other aspects of development communication have tended to rely more heavily on mass media than on interpersonal communication.

NQ: One thing though, about agricultural university research in many developing countries is this issue of technology transfer and the needs of small farm families. As you know, university agricultural researchers, and maybe other researchers as well, don't always think of user needs when they think up research projects. They think about the gaps in the discipline, their particular disciplines, but not too often about the situation of the small farmers who will use the technology, so this is quite an issue, as far as we're concerned.

JM: In line with the user needs question, I recall when I visited you in Los Baños you were working on getting farmers to identify their needs.

In this issue . . .

ANNEE MONDIALE DES COMMUNICATIONS
WORLD COMMUNICATIONS YEAR
AÑO MUNDIAL DE LAS COMUNICACIONES
1983

DCR *is honored to be among the publications approved by the U.S. Council for World Communications Year 83 to display the official WCY 83 logo.*

NQ: Was that in 1979? We were developing a radio-based learning system, and our project didn't have field people, and to really link up with farm families you have to have a field base, but we did work with an organization that had field people, so we tried to get information about user needs through them.

We had a board of subject matter specialists that decided what topics would be covered in the radio program and a staff member of that organization sat on the board to feed back the particular information needs of the families in her community as told to her. Farmers don't really write letters, even though we tried to make it easy by having drop boxes in the villages. . . . It's encouraging, though, that many field technicians seem to know the needs of farm families. We compared the responses of farmers and of field technicians on their perception of farm problems and they were quite similar.

JM: I think what you're saying illustrates very well what might be a general principle, that we always think we should combine mass media with the field workers for outreach. Perhaps the most important function of the strong interpersonal component in a development communication program is the feedback it gives the mass media people. You have people in the village who know what you're trying to do with mass media and who know the needs and habits of the villagers, and they can be very effective in providing feedback. A conscious effort has to be made to do that—it's not enough to hope that they'll call you up or send you a letter.

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A publication of the Clearinghouse on Development Communication
Supported by the Bureau for Science and Technology of the U.S. Agency for International Development

The Future of Computers in Education in the Developing World

by Jamesine Friend

Although computers are being used more and more widely as an educational tool in the United States and Europe, there has been little use of this technology in the developing world, largely because the costs have been prohibitive for all but the wealthiest nations. However, with the advent of the low-cost microcomputer, the cost deterrent is rapidly being overcome, and it is likely that if the current trend toward lower-cost hardware continues, some educational uses of computers will become feasible in most developing countries.

DCR *asked Jamesine Friend, a well-known specialist in the field of education who has been working in the design and production of computer-assisted instruction for more than ten years, to speculate on the most likely applications of computers for education in the developing world. In this article, Dr. Friend provides a thoughtful review of the uses and history of computer-assisted education in the U.S., and highlights some of the benefits as well as some of the pitfalls that she sees ahead as computers are increasingly transferred to many parts of the developing world.*

In some ways, the future of educational computing in the Third World will parallel what has happened in the United States. The first uses will be in administration and in the teaching of computer science at the university level, and only later will computer-assisted instruction (CAI) be used in other than small experimental projects. In other ways, the Third World is in the position of "leapfrogging": by taking advantage of technological changes that have occurred over the last 20–25 years, the developing world can enter into the field of computing at a more advanced level immediately. Not only hardware, but also software from the industrialized world can be used without going through a lengthy development process. Especially in administration and in computer science departments, ready-made software can be imported and put to use immediately. It is less clear that imported CAI programs can be used in the Third World, though, since the educational needs of developing countries differ from the needs of the countries in which such programs are now available. Before looking more closely at the possible applications of CAI in the developing world, we turn to a brief overview of the history of CAI in the United States.

Computers have been used in the U.S. for teaching for 20 years, providing individualized instruction that is both motivating and effective. The first educational programs were written for large *mainframe* computers which communicated with remote sites by means of telephone lines. One mainframe computer could serve many schools that were as far as several thousand miles from the computer center. Because of the high cost of telephone service, many schools began to acquire their own *minicomputers.* Although minicomputers serve fewer students, the lower cost of smaller computers plus the saving in telephone charges made them a viable alternative to central mainframe computers. The more recent *microcomputer,* with its even lower cost, has given new impetus to computer use in the field of education. There is hardly a school in the United States that cannot now afford at least one microcomputer.

Drill-and-Practice

Many of the educational programs developed for mainframe computers and minicomputers can provide students with daily lessons for months or even years. Some of the programs provide drill-and-practice exercises, which are meant to supplement a regular course of instruction. These programs derive their effectiveness from their ability to provide individualized instruction, offering each student the precise kind of practice needed to fully develop skills previously presented in the classroom. Another kind of program is the tutorial program which provides instruction as well as practice; tutorial programs are intended to provide complete instruction in a given subject, and are most often used by students who do not attend regular classes. One of the most attractive features of the tutorial programs is that students can study at their convenience, working at any time of day, and for any length of time.

A number of research studies have shown that both drill-and-practice programs and tutorial instruction can be very effective for many subjects and for a wide range of students. While drill-and-practice programs have been most common in elementary schools, tutorial programs have been used most often by high school or college students, or by adults who are not regular students. Drill-and-practice programs are characteristically developed for skill subjects such as arithmetic, grammar, spelling, and foreign languages. Tutorial programs have been used for a wider range of subjects: logic, computer programming, algebra, history, geography, statistics, physics, etc.

Several other forms of computerized instruction have also been used, although to a lesser extent. Intelligent computer-assisted instruction, which involves the application of artificial intelligence techniques, is a sophisticated development, promising programs that are more "knowledgeable" about both the subject matter and the individual student. "Artificial intelligence" refers to the capacity of the computer to simulate human intellectual and cognitive behavior, which can include voice recognition and personalized responses. So far it has seen little application outside of a specialized, research environment, and much basic research is needed before intelligent computer-assisted learning replaces the more standard drill-and-practice or tutorial programs. Simulation programs are also very promising; in a few short, interactive sessions, these programs can provide students with experience equivalent to hours spent in the laboratory or field. Flight and driving simulators use a computer to control elaborate simulation equipment and provide training that would otherwise be more costly, more dangerous, and more time-consuming.

Dental and surgical patients have also been simulated by computer for use in training dentists and diagnosticians. These are elaborate constructs that simulate human reactions to drugs, blood loss, etc., in quite a realistic fashion. There are also simpler kinds of simulations which use a simple computer terminal to simulate experiments with rocket trajectories, chemical mixtures, life cycles of organisms, and so on. These simpler simulations are highly verbal, describing outcomes rather than providing realistic simulations, and although they do not provide the same kind of realism as the more complex simulations, they can be quite effective teaching devices.

Most of the kinds of programs mentioned above are implemented on mainframe computers or minicomputers. Some of them can be translated for use on microcomputers, al-

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Development Communication Report, published quarterly by the Clearinghouse on Development Communication, has a circulation of over 5,000. The newsletter is available free of charge to readers in the developing world, and at a charge of US $10.00 per year to readers in the industrialized countries.

A center for materials and information on important applications of communication technology to development problems, the Clearinghouse is operated by the Academy for Educational Development, a nonprofit planning organization, and supported by the Bureau for Science and Technology of the U.S. Agency for International Development as part of its program in educational technology and development communication.

Readers are invited to submit typed manuscripts of no more than 1000 words, and to send in photographs.

Africa's Search for Communication Technologies for Education: A Reflection on Problems and Prospects

by K. Ofori-Ansa

For the last quarter of a century, various forms of international aid schemes have supported the search for new strategies and resources to improve the quality and quantity of education in Africa. Through bilateral and multilateral aid programs, many African countries were encouraged to undertake innovative educational projects that relied heavily on the use of modern communication technologies, often transferred from the industrially advanced societies.

Today, with the rapid advances made in the development of communication technologies in the industrialized countries, the demand for educational use of these technologies is likely to increase. Africa, like most developing parts of the world, will continue to be a recipient of these advanced forms of communication technologies. In addition to such earlier mass communication technologies as radio and television, such new ones as video, computers, and satellites will continue to attract the attention of educational planners and policymakers in Africa. The lessons of past efforts at educational use of the mass media, and the problems and prospects of current attempts in Africa are the central issues discussed in this article.

New Strategies and Resources for Educational Expansion

New and more efficient strategies were needed to support educational expansion in post-independence Africa. With political independence came an increased demand for education to meet the growing manpower needs of the emerging nations in Africa. It was considered that education, as a means for human resource development, was a viable capital investment necessary to support social and economic development. Yet, in many African countries, the educational systems and the traditional teaching methods inherited from colonial rule were not adequate to satisfy the increased demand for trained manpower. In response to the need for educational reforms and expansion, many African governments invested heavily in the development of their education systems. Between 1960 and 1968, according to a Unesco report, public expenditure for education doubled in Africa, and as a percentage of gross national product, public expenditure in education grew at an average annual rate of 14 percent. It is estimated that Africa, like most developing areas of the world, spent between 15 and 20 percent of the national budget on education, during the 1970s.

That high level of expenditure on education was justified by the increased demand for education in Africa. The educational expansion efforts also increased shortages of qualified and competent teachers, shortages of instructional materials, and shortages of adequate equipment and physical facilities. New strategies and resources were needed to solve these mounting problems.

The Technological Alternatives

Taking a cue from educational trends in the industrialized nations, many African countries began to experiment with the use of mass communication technologies to support their educational reform efforts. It was generally agreed that the mass media, especially radio and television, had certain qualities that could be exploited either to replace or improve conventional methods of teaching. Through the mass media, it was thought, good teaching could reach a large population of learners who otherwise would have been confined to a narrow and inadequate level of education. Radio and television were therefore used in various ways to deliver both formal and nonformal instruction. Generally termed educational broadcasting, these two mass communication technologies were used for in-school curriculum enrichment, for in-school direct instruction, for an extension of instruction to remote areas where a monitor would do the work of a qualified teacher, and for distance teaching in which the mass media in combination with correspondence courses replaced both teacher and school.

By the late 1960s, at least 16 African countries were using educational broadcasting of one kind or another. International aid agencies, governmental donor agencies, and private foundations in the industrially advanced countries provided the support base for many African countries in their efforts to use radio and television for educational improvement (see Tables). Radio and television, it was believed, could help improve the quality of education, increase access to educational opportunities, reduce educational costs, and reduce the rate of dropout and repetition.

Most of these efforts, however, failed to make any significant impact on educational development in Africa. Some of the projects were discontinued after external aid ended, while others, though they remained in operation, failed to grow as expected.

Educational analysts have generally concluded that post-independence educational reforms in Africa failed to achieve their aims. There is still a high level of illiteracy in most African countries, as well as a rising level of unemployment among school-leavers, and the economic development that was expected as a result of educational expansion is far off the mark. By implication, educational broadcasting, as an aspect of the total educational expansion efforts, has therefore not been fruitful. There are, however, two basic schools of thought with regard to the educational use of the mass media in Africa. One school of thought argues that educational radio and television are too expensive and unnecessary and should, therefore, not be given a priority in educational reform efforts. It argues that without a technological base, educational broadcasting in Africa will continue to face problems and will only end up as cosmetic additions to educational programs.

The other school of thought views the failure of educational broadcasting in Africa not as a failure of the technology, but a failure of planning and implementation. The latter school of thought points out several factors that have, in the past, militated against the success of educational broadcasting and are continuing to do so in current efforts. Among these factors are:

1. Inadequate and defective needs assessment approaches;
2. Minimal consideration for social and cultural norms of recipient countries;
3. Minimal local participation in project planning and execution;
4. Rigid implementation schedule that makes no room for a mutual adaptation.

The first of these factors is discussed here, and possible solutions for the other three are offered at the close of the paper.

Assessing the Real Educational Needs

Often the real educational needs of a recipient country escape the attention of project designers who apply rigid and bookish approaches to project identification appraisals. Results of successful projects in other countries tend to influence decisions of policymakers and project designers. As a result, a technological solution may be selected before a problem is properly assessed. The Tables show how few countries were able to sustain and expand early experiments with educational radio and TV. (See page 4–5.)

As the Tables further illustrate, there are still a few African countries which are using communication technologies of one kind or the other to support their educational development programs. Radio and television, in combination with print materials, are used to provide direct classroom instruction and to enrich curriculum. In general, greater emphasis is now placed on basic education and the training of teachers for elementary, secondary, and vocational schools.

Generally, the current efforts are still con-

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fronted with some of the problems that plagued earlier attempts. Most of these problems are still rooted in planning and implementation. If these current efforts will make any significant impact on educational development in Africa, much depends upon the extent to which lessons are learned from past failures and successes. There are still risks, but the prospects are good. Some recommendations are offered here, with the aim of contributing to the ongoing international effort to search for more effective approaches in using communication technologies to support educational development in Africa.

Two-Way Flow of Information

1. Technical assistance programs supporting educational use of modern communication technologies should be perceived in the context of international cooperation, with a two-way flow, rather than in the context of a donor-recipient relationship. Assistance given within the context of cooperation is more likely to attract active involvement of all parties involved. Such active involvement in project generation by all interested parties would reduce apathy and passivity on the part of those who are to receive, and also minimize aggressive cultural imposition on the part of those who are to give. This would have a positive impact on project implementation and therefore promote effectiveness and continuation of the outcomes of educational innovations.

Needs Assessment on a Country-by-Country Basis

2. Greater emphasis needs to be put on thorough country-by-country assessment of educational needs and problems in order to provide an adequate basis for designing project objectives and project contents to satisfy specific needs. Instead of a wholesale transplant of predetermined solutions based on preconceived beliefs about the educational needs of developing countries, solutions should be based on the peculiar needs of a given country. Results of educational technology projects in technologically advanced countries and those in other developing countries can provide useful guides, but cannot be considered as absolute criteria for justifying the planning of projects along similar lines in a different country.

Pragmatism and Flexibility in Needs Assessment

3. Needs assessment should be tempered with pragmatism and flexibility in approach. Rigid, bookish approaches to needs assessment may only succeed in providing artificial information, and glossing over actual needs. The real educational problems and needs may lend themselves to a more pragmatic human-based approach to needs assessment. When assessments are conducted by outside consultants, consultants should have a thorough understanding of the traditional culture

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Table 1
Development of Educational Radio in Africa

Country	Year of Introduction	Function	Sponsors	Current Status
Algeria	1978	Teacher training	Government of Algeria, the World Bank	Still in operation and being expanded
Botswana	1976	Distance teaching; adult education on agriculture	Government of Botswana, International Extension College (United Kingdom)	Still in operation, but not extensively expanded
Cameroon	1957	Out-of-school formal and informal instruction in literacy campaign	Government of Cameroon, Government of France	Still in operation, but performing below capacity
Dahomey	1969	Nonformal adult education on health and agricultural techniques	Government of Dahomey, Food and Agriculture Organization (FAO)	In progress, not extensively expanded
Ghana	1959	English instruction to primary schools, supplementary instruction in formal school systems	Government of Ghana, Government of Canada, Unesco	Was expanded to middle and secondary schools and teacher training college, but now deteriorated
Kenya	1967	Distance learning for teachers	Government of Kenya, USAID, World Bank (1976)	Still in progress but underutilized
Lesotho	1974	Formal and nonformal distance learning, practical education	Government of Lesotho, International Extension College (UK), World Bank, UNICEF, Danish Government	Ongoing, expanded
Malawi	1963	Supplementary education in secondary schools	Government of Malawi, University of Missouri, West German Government	Expanded in 1978 to cover all secondary schools
Mauritius	1972	Out-of-school education, in-school instruction on agricultural techniques	Government of Mauritius, World Bank (1978), International Extension College (UK)	Still in operation, dropped several courses, added campaign program on trade unions
Niger	1961	Upgrading instruction, adult literacy	Government of Niger, Government of France, Unesco	Still in operation; expanded but still underutilized
Nigeria	1961	Regular in-school education, supplemental	Government of Nigeria, Ford Foundation, USAID	Adversely affected by a decade of political unrest. Still in operation but not fully utilized
Northern Nigeria	1957	In-school instruction in English language	Nigerian Broadcasting Corporation, British Broadcasting Corporation	Initial format was abandoned during political upheavals; revived but not fully utilized
Senegal	1965	Out-of-school formal and informal literacy instruction and health education to urban adult population	Government of Senegal, Government of France, Unesco, Government of Switzerland	Still in operation and run by Senegalese; extended to in-school education
Sierra Leone	1962	In-school instruction, supplemental	Government of Sierra Leone, British Government	Discontinued because of troubled economy
Tanzania	1971	Adult education in health and community development	Government of Tanzania, Swedish International Development Authority, University of Sussex, International Council for Adult Education	Still in progress; progressively expanded and yielding positive results
Togo	1964	Adult education and community development	Government of Togo, Unesco, Governments of France and West Germany	Still in operation, but not extensively expanded
Uganda	1966	In-school supplementary	Government of Uganda, British Government	Abandoned
Zaire	1963	Telestar—formal instruction in languages, health education and science	Government of Zaire, Catholic Church of Zaire, USAID, Government of West Germany	Expanded to include educational television

Source: Compiled from UNESCO, World Bank, USAID, and AED current documentation.

Table 2
Development of Educational Television in Africa

Country	Year of Introduction	Function	Sponsors	Current Status
Algeria	1978	Teacher training	Government of Algeria, the World Bank	Still in operation and being expanded
Egypt	N/A	To supplement in-school instruction	Government of Egypt	Expanded in 1965; still in progress, but operating under capacity
Ghana	1965	To supplement in-school instruction at the primary, secondary, and teacher training college levels	Government of Ghana, British Council, Friedrich-Ebert Foundation	Discontinued due to economic and political problems. Some out-of-school programs in operation
Ivory Coast	1971	Formal education reforms; elementary and secondary levels	Government of the Ivory Coast, Government of France, Government of Canada, Unesco	Was yielding good results; expanded but heavily reliant on external support. Terminated in 1982
Mauritius	1978	In-school instruction, distance learning for secondary school and teacher training college and vocational school students and government employees	Government of Mauritius, World Bank, International Extension College (UK)	Still in operation
Niger	1964	In-school instruction at the elementary school level. French language, math, reading and writing	Government of Niger, Government of France, Unesco	Expanded but still operating below expected level
Nigeria (Northern)	1961	Direct classroom teaching	State Government of Northern Nigeria, USAID, UK companies	Abandoned during political unrests and civil war; revived
Nigeria (West)	1959	In-school instruction	Eastern Regional Government, USAID, British Government, CETO	Terminated during civil war; revived
Morocco	N/A	Farmer education	Government of Morocco, USAID, RTV International	N/A
Senegal	1963	Adult education	Government of Senegal, Government of France, Unesco	N/A
Sierra Leone	1966	Science teaching	Government of Sierra Leone, CETO, British Ministry of Overseas Development	Terminated in 1968
Tunisia	1968	To improve quality of in-school instruction and expand educational opportunities	Government of Tunisia, National Association of Educational Broadcasting (NAEB) for USAID	Still in operation
Uganda	1963	General broadcasting to senior secondary schools and teacher training colleges	Government of Uganda, British Government	Terminated because of political and economic problems
Zaire	1969	Adult education in agriculture civic education, out-of-school youth education, in-school instruction	Government of Zaire, USAID	Still in operation, but has not grown as expected
Zambia	1965	In-school instruction for upper primary and teacher training colleges	Government of Zambia	N/A
Zimbabwe	1962	In-school instruction for white schools only	The then all-white Government of Rhodesia under British colonial rule	Discontinued during liberation war; now being revived and desegregated

Source: Compiled from UNESCO, World Bank, USAID, and AED current documentation.

(continued from page 4)

and contemporary social conditions in the target country. Such an understanding would be a useful asset in adopting a pragmatic and flexible approach to needs assessment.

Training and Orientation for Foreign and Local Experts

4. Greater attention should be given to training local experts in the mechanics of donor agencies' approaches to project planning and management. This would foster reciprocal understanding between local officials and externally sponsored experts, thereby promoting a mutual adoption of project goals and content. It would also encourage recipient countries to take greater control over planning and implementation and thus relieve them of the burden of having to adhere rigidly to bureaucratic and legal requirements imposed by the nature of operations of technical assistance agencies. Such a control will offer recipient countries the opportunity to formulate implementation strategies suitable to their own local conditions. The challenge of having to accept accountability for project outcomes is more likely to induce effectiveness.

With increased awareness of the operational strategies of donor agencies, local experts would be capable of assuming greater responsibilities and therefore release donor agencies' foreign experts to conduct more in-depth implementation monitoring and policy studies. This would enhance the role of a donor agency as a facilitator/partner in an international cooperative venture.

Increased Local Participation

5. Local participation should not be limited to the few government officials who usually share little in common with the majority of the local population who are often the targets of innovative educational projects. Local participation should therefore be broadened to include parents, teachers, and community leadership. This early involvement in project formulation has the advantage of increasing local awareness of the technicalities and ultimate implications of the project. With such an awareness there would be a reduction in the effect of cultural shock that might result from the rapid social and behavioral changes stimulated by the innovation.

Use of Indigenous Channels of Consensus Generation

6. To minimize the negative side effects of extensive local participation in project formulation and implementation (resulting from conflicting group interests), greater use should be made of indigenous channels of social interaction and consensus generation. Most African countries still rely on traditional political leadership to reach the communities and to generate discussion. This indigenous channel should be effectively exploited

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On the Horizon

International donor agencies frequently have a publication that represents the particular perspective of the agency to the larger development community. Especially good examples that come quickly to mind are *The IDRC Reports* (from Canada's International Development Research Centre), and *Development Dialogue* (from the Dag Hammarskjöld Foundation in Sweden). In general, these publications provide the reader with a sense of the current issues of concern to the agency as well as an idea of future funding trends.

The latest in a series of informational publications about AID and its development activities is *Horizons,* published by the Office of Public Affairs of the Agency for International Development.

It would be well worthwhile for readers working at the international level of development to learn about the variety of AID-supported projects that *Horizons* presents. In addition to feature articles illustrated with excellent photographs, there are regular sections on books, business, academe, and lessons learned, all useful and in the best tradition of information-sharing.

The editor is to be commended for the attractive layout and design of this monthly publication, as well as for the obvious concern with making it a source of transferable information.

For subscription information, write to *Horizons,* Office of Public Affairs, OPA/DCR, Publications Division, U.S. Agency for International Development, Washington, D.C. 20523, USA.

— Judy Brace

Scriptwriting Help

The Clearinghouse has available a limited supply of a paper which was written as a guide for scriptwriters working on USAID's Kenya Radio Language Arts Project. Specific references are to the radio lessons and scripts developed for that project, but the principles suggested apply equally to instructional radio scriptwriting for other content areas. The manual, entitled "Writing the Instructional Radio Script," was written by Esta de Fossard, a well-known international educational radio consultant and a frequent contributor to *DCR.*

The paper includes 18 pages of text, followed by a 52-page sample radio script. It is available, as long as supplies last, for US$5.00 *prepaid* from the Clearinghouse; free of charge to readers in the developing world. ■

Villagers Teaching Us to Teach Them

by John Siceloff

The photographer squints through the viewfinder, then motions to the woman holding the baby to dunk it in the bath. The baby shrieks. "Click!"

The scene might evoke familiar memories. But here in this Tanzanian village, there is a difference: the subject is a village woman, and so is the photographer. But even more novel than the scene was the assignment the photographer had undertaken: she was taking pictures of a familiar village activity of her own choosing in order to use the result to teach others how that activity could most easily and economically be performed.

The use of graphic illustrations in communicating ideas about development has been extensively researched. The central purpose of much of this research has been to understand how non-literate rural people respond to visual aids such as drawings, photographs, slide sets, and posters. My goal was similarly to enhance that understanding but to do so in a manner that gave the people themselves virtual control of the material that had to be produced and assessed. So I decided to hand over the tool—the camera—to the villagers so that they could film their own activity. Their choice of perspective, "editing," and the subject "frame" would, I felt, yield significant indications of the way they perceived things visually.

Over a two-year period in Peru and then Tanzania, two hundred delegated villagers cooperated enthusiastically in the exercise. Each learned how to use an instant picture camera, then took and explained their picture series on how to hoe, to harvest, to cook, to feed the baby, and many other everyday activities. And it became apparent very quickly how invaluable a tool in village education pictures can be. Again and again I saw photographs spark the interest of villagers and provide them with detailed images of both familiar and unfamiliar things and places.

In the process I learnt a great deal about the effective use of picture series among villagers, especially women, and as well about why villagers were sometimes left confused about the overall story or message of the pictures and films made by "experts." Particularly confusing have been "how-to" films designed to communicate new skills in essential activities. So putting the camera in the hands of villagers was a move back to the basics, to find out how villagers related to their own productive work on the visual plane.

The picture series taken by the villagers could be roughly grouped into two categories. In the first group, the emphasis was on the action; each step was shown in a separate picture. The photographers in this grouping were mostly men. And they were men who lived in villages near major roads or in shanty-towns near urban centers.

Pictures taken by women, and by men in more isolated villages, were very different. Their pictures emphasized people doing the work, not each step of how the work was performed. Large blocks of activity were often shown in a single picture.

These photographers conceived of a "how-to" picture series in a very broad sense. They showed people travelling to work, working, resting, and often drinking. The emphasis was on "how *we* work," not a step-by-step presentation of an activity. It was a style of communicating with pictures that was descriptive, personal and "whole," reflecting how villagers taught and learned from one another in their daily lives.

"Why-to" and Not Just "How-to"

This provided insight into what kind of picture series would be needed to introduce new ideas into village areas. For men in the first grouping, conventional "how-to" pictures, with each step shown in a separate picture, were likely to work. But for nearly all village women, and for men in isolated villages, picture series would need to follow certain guidelines:

- The narration, or written description, that accompanied the pictures would be very important. Pictures in themselves would convey little without highlighting what was seen in the image and why it was important.
- A picture series could not be expected to teach villagers how to perform a specific activity. This could only be done by someone on the spot. "How-to" picture series were unlikely to work.
- Picture series could be very successful in encouraging villagers to adopt new ideas, ranging from improved cropping techniques to better diets for babies. Instead of a "how-to" series, these would be "why-to" pictures.
- A "why-to" picture series would need to be presented in a descriptive, person-to-person style.
- The picture series would need to present experience, not merely information. This would mean showing something which actually happened in a village and worked.

I struggled with different ways to carry out these guidelines. I found it was difficult to script a picture series that would speak on a person-to-person basis to villagers. The problem was the enormous gap between the actual situation of villagers and my own situation—or indeed that of any highly trained communications worker living in an urban

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Publications of More than Passing Interest

by Judy Brace

• In the past, we have directed readers to the always useful "broadsheets" of the International Extension College. The appearance of a new such publication certainly merits attention. Janet Jenkins has written ***Mass Media for Health Education,*** a monograph developed around the experiences of a number of health project case studies. The publication, illustrated with examples of referenced materials, is intended to encourage developing country health personnel to apply the mass media to extend and support health education. Print materials are featured in several projects, as is radio. Projects using television, film, and cassettes are also mentioned.

With the exception of an example from the contemporary Nicaraguan "Popular Health Days," the project examples presented are old and well established, and probably familiar to readers of *DCR*. Pulling them together, however, and taking the next step by suggesting ways to start a project is a valuable service.

New health projects that use media are being planned and implemented continuously. It should be incumbent on project management to document the process of getting their program—a campaign, or a product—out and accepted by their audience. This would add to the body of knowledge on the subject, and would be another indication of the widespread acceptance of the validity of development communication. It might even indicate that readers of *DCR* are putting into practice what they read in its pages!

Mass Media for Health Education will be a useful book, and should take its place on the health shelf of any development communication practitioner. The broadsheet, Number 18, is available for £4.00 surface, £4.80 air, from the International Extension College, attention Mrs. M. Stirling, 18 Brooklands Avenue, Cambridge BB2 2HN, United Kingdom.

• The organization that has most aggressively tackled the difficult problem of transmitting social service messages to non-readers is PIACT. The Program for the Introduction and Adaptation of Contraceptive Technology has taken the lead in the design, validation, and distribution of visual print materials intended to reinforce interpersonal instruction.

How they have done this in cultures as diverse as those of Mexico, Bangladesh, Thailand, Nepal, and the Philippines; how they have moved to include men in their portrayals of family care; and how they have developed guidelines and a methodology for materials' development, are succinctly set forth in a publication that encourages others to follow their carefully tested path. ***Print Materials for Nonreaders: Experiences in Family Planning and Health*** by Margot L. Zimmerman and Gordon W. Perkin, focuses on the process of developing materials in the field of family planning. Nonetheless this process can, and should, be adapted to other fields.

Media programs, campaigns, extension workers, all could use support materials to reinforce a specific message or behavior. Despite some confusion that could easily be clarified by labeling misunderstood illustrations as such, this attractive and valuable Piact Paper Eight will greatly contribute to the communication process at hand. Available for US$2.50 from PIACT, Canal Place, 130 Nickerson St., Seattle, Washington 98109, USA.

• Two European information resources should be noted. General development and information exchange issues are the concern of "Development Innovations and Networks" located in Geneva. They and their publication, ***IRED Forum,*** encourage the sharing of experiences, technologies, and information among and between NGOs, PVOs, international organizations, and interested governments. Much of their activity is centered around Africa, but they seek to expand their network in Latin America and Asia. To be added to their network and to subscribe to their *IRED Forum* (US$12) contact Fernand Vincent, Case 116-3, rue de Varembé - 1211 Geneva 20, Switzerland. ■

Judy Brace is the Director of the Clearinghouse on Development Communication, as well as the Resource Center Manager.

CIESPAL Anniversary Contest Planned

Preliminary plans have been launched to celebrate the 25th anniversary of the founding of CIESPAL, the International Center of Higher Communication Studies for Latin America, with a Latin American Festival of Educational Radio. The Festival will feature a contest to select the best educational programs in three categories.

This event, planned in collaboration with Radio Netherland, will take place in Quito, Ecuador, October 15-20, 1984, giving well over a year to raise money for awards and develop specific plans for a week of programs, seminars, cultural exchanges, and professional development.

During the Festival, judges will review and evaluate the educational radio programs that have been submitted to the contest. The following guidelines will be used in judging the programs:

a) Programs must be educational in the broadest sense, and encourage an active and full participation in community life by all groups, particularly the disadvantaged;

b) Programs must be specifically Latin American, in subject matter as well as in presentation, with reference to local legends, dress, folklore, and music;

c) Programs must be innovative.

The three categories into which the programs will be divided are:

1) Latin American legends, to reinforce local values and cultures;

2) Local (as opposed to national and international) news, providing clear, objective information and encouraging audience participation;

3) The ongoing programming of a community organization (educational, cooperative, union) presented in a creative, continually effective manner.

CIESPAL is soliciting comments and suggestions with regard to these plans. *DCR* readers are invited to respond, and can request further information (in Spanish) from Antonio Cabezas, who is serving as Executive Secretary of the Festival. Write to him at CIESPAL-RNTC, Apartado 9336 Suc. 7, Quito, Ecuador. ■

Printing Help

No matter how humble the item may be, no question about printing goes unanswered by the Printing Panel of the London-based Intermediate Technology Development Group.

Some of Britain's most experienced professionals are part of the Panel which recently formed four groups to handle specific inquiries. The groups are:

1. Educational Technology—dealing with the preparation of aids to learning.
2. Periodicals and Community Newspapers—covering the production of information and news for rural and urban areas.
3. Screen Process Printing.
4. Illustration and Design—covering all types of illustration and matters affecting the presentation of visual material.

Henry Larken, who heads the Printing Panel, explains that the group includes in the word 'printing' stencil duplicating, the Hecto process, and hand-operated methods of producing multi-copy work.

The Panel gives advice without charge to organizations with limited financial resources. ■

Printing Panel, Intermediate Technology Development Group, 9 King St., London WC2E 8HN, England.

Reprinted from *ACTION, WACC Newsletter,* July 1982.

A Communicator's Checklist

1 ***Meeting Learners' Needs through Telecommunications: A Directory and Guide to Programs,*** by Raymond J. Lewis (Washington, D.C.: American Association for Higher Education, 1983), 264 pp.

Ray Lewis devoted two years to his investigation of educational applications of telecommunications technologies by postsecondary organizations in the United States. The results of that research are reflected in this excellent and useful book, *Meeting Learners' Needs through Telecommunications: A Directory and Guide to Programs.* As the subtitle indicates, the book is both a directory and a guide: a directory of 70 individual program descriptions, and a guide that illuminates the patterns and trends that emerged from Lewis's analysis of those programs. As Lewis states it, the book has a twofold purpose: first, "to increase the likelihood that when educators use telecommunications technologies to solve educational problems, they will be more aware of the practices of other organizations," and second, "to encourage educators to focus their attention on the educational problem before considering which, if any, electronic technology is appropriate to the problem."

Lewis conducted his research under the auspices of the Center for Learning and Telecommunications, a service that is funded by the Carnegie Corporation of New York and housed in the American Association of Higher Education. The Center also publishes a bimonthly newsletter, *Telescan,* and offers a computer-based inquiry service that comprises a database of the literature in the field and the program-specific information that resulted from Lewis's work.

Lewis based his book on a survey of programs in the United States that met at least one of the following criteria:

- a program with a delivery system or curriculum that is marketed nationally to postsecondary educators;
- a program with features that could be readily adapted to others;
- a noteworthy or unique approach to a specific educational mission;
- a noteworthy or unique application of one or more technologies;
- a noteworthy or unique approach to solving the problems of managing the delivery of education at a distance.

The programs chosen for inclusion also have a special emphasis on addressing the educational needs of learners, rather than administrative needs of the organization; and on the capacity to serve students in off-campus, as well as on-campus, settings. These emphases lead necessarily to a focus on interactive programs.

The book is organized in such a way that the reader or researcher can either spend time with the "Guide to Programs" section, which provides an overview of the patterns and trends in post-secondary telecommunications applications, or go directly to a specific piece of information about a specific program or technology. The analysis of trends reveals, for example, that "when it comes to educational applications of telecommunications technologies, professional continuing education is perhaps the fastest growing and most competitive area." Or that staff members of the 70 programs stress that, for working adults, "convenience is the single most important consideration affecting adult learners' decisions about whether, where, or when to get involved in education." Or (and this will come as no surprise to distance teaching institutions in developing countries) that "one of the biggest problems facing programs that rely on remote learning sites or delivery into students' homes is making adequate print materials available to the students."

The report points to some serious considerations in the area of "problems and possibilities." It discusses several equity issues—for example, the fact that "limited educational services are available for citizens with low levels of prior educational attainment." The survey revealed that "the postsecondary education community is not fully exploiting the capacities of electronic media to change existing patterns of adult participation in education." Another example: "limited educational services are available for special populations" (such as minority language groups, homebound and handicapped persons, prisoners, etc.). "With the exception of rural residents, no one of these populations was served with special programming efforts by any more than 17 percent of the surveyed programs."

The directory of the 70 programs included in the book is very well indexed and cross-referenced, both by educational mission and by telecommunications technologies used. Each program description, which has been checked and approved by the institution being described, includes information on educational mission, telecommunications technologies, curriculum, faculty roles, delivery system, enrollment, administrative structure, finances, and resources available. Useful marginal notes include noteworthy features of the program, problems encountered, observations about distance learning, future plans, and contact persons.

The telecommunications technologies covered in the survey include: open broadcast television, microwave (ITFS), point-to-point microwave, one-way cable television, interactive cable television, slow-scan television, satellite, video teleconferencing, electronic blackboard, radio, telephone, audio teleconferencing, videotape, audiotape, computer-assisted instruction, computer-based instructional management, computer/videotape interface, and computer/cable interface.

Although all of the programs included in this survey are U.S.-based, the volume is nonetheless useful to the development communication audience, in that it is the best compendium I have come across of descriptions of how telecommunications technologies are currently being used in educational institutions in the U.S., particularly for distance education, and the problems and successes of that experience. ■

Reviewed by Sandra Lauffer, Program Officer for Telecommunications with the Academy for Educational Development, and Director of Information, Applications Management, AID Rural Satellite Program. She is also a former editor of *Development Communication Report.*

Available (prepaid) for $45.00 within the United States, $47.50 to all other countries from the American Association for Higher Education, One Dupont Circle, Suite 600, Washington, D.C. 20036, USA.

2 ***Education and Training for Library and Information Services in a Predominantly Non-Literate Society,*** edited by B. Olabimpe Aboyade (The Hague: Federation Internationale de Documentation (FID) Publication 604, 1981), 108 pp.

This collection of papers records the proceedings of a four-day conference held in Ibadan, Nigeria, in May 1981. The book is divided into four sections: first, the background which covers communication and the transfer of information in a non-literate society, and determinants of agricultural productivity among non-literate farmers; second,

the identification of user populations and their needs, which deals with agricultural extension and the documentation and transfer of scientific information for rural communities; the third section focuses on providing information to non-literates; and the last section looks at a special program in library and information education. Most speakers at the conference were Nigerian academics and senior government employees. The papers therefore refer specifically to Nigerian rural systems.

Before discussing particular issues raised by the papers, it has to be said that anyone requiring a broad background in rural communications would find this book of value. It is ironical however, that papers on communications are rarely simply written, and these are no exception. A further irony lies in the fact that speakers at this conference on information systems generally cited studies at least ten years old, and that this review comes two years after the conference was held: so much for timeliness of information. However, the problems have not changed very much over that period, and the solutions arrived at by this conference seem familiar.

The thrust of the conference was to identify training needs for library and information services for rural non-literates. Why a *library service* for non-literates? Two answers emerge. Dr. Aboyade suggests that literacy is more than the ability to read and write. Literacy should be re-defined to account for the learning and wisdom of people who can do neither because, she says, they are 'orally literate.' Unfortunately, widening the definition does not make the printed word any more accessible to those who cannot read, even though it may change perceptions of the capabilities of non-literates.

The second answer is to re-define the concept of libraries for rural information-seekers. This makes a good deal of sense. The provision of information in forms other than print would have immediate benefits for illiterate users, and might have the secondary effect of encouraging them to become literate. Technologies other than print for the retrieval and dissemination of information are spreading through the developing world, and training in their management is becoming increasingly important.

It is disappointing, therefore, that there is a gap between the identification of the problems and the training recipe offered in the last paper. The third section of the conference report describes the information needs of rural women and touches on the corollaries of illiteracy (such as high fertility). Dr. Seeger relates various information strategies to a communications model, but no real attempt is made to detail rural information services and the consequent training needs. The last paper consists of a discussion of rural communities, a paradigm for identifying their information needs, and then a model service. A core curriculum is appended.

One gets the impression that the curriculum had been developed independently and prior to the conference. This is not inherently a problem, but no indication is given of how training objectives and curriculum development were related to the problems and needs cited in earlier papers. And that should have been the heart of the conference.

Perhaps a conference format is not suited to much more than statement and counter-statement, particularly when people read prepared papers. Of course, in non-literate societies they probably know how to manage conference speakers to reach logical and organic outcomes. Pity they can't write about it. ■

Reviewed by Michael Laflin, a Research Scientist with the Institute for International Research. He is currently advising the Liberian Rural Communications Network.

Available from International Federation for Documentation, P.O. Box 90402, 2509 LK, The Hague, Netherlands.

3

Cultural Autonomy in Global Communications, by Cees J. Hamelink (New York, New York: Longman, Inc., 1983), 144 pp.

This book is an excellent critical piece which clarifies the perspective on global communications endorsed by segments of the communications intellectual elite of the Third World.

The book presents a very compelling rationale for the preservation of indigenous cultures, i.e., the potential destruction of survival mechanisms built into the world's diverse cultural patterns may endanger the survival of the societies who have strived to adapt to their unique environments. More important is the explanation that the potential destruction of indigenous cultures is solely for the benefit of global merchants, according to the author.

The book has five chapters, a bibliography, a list of abbreviations, and an index. The first chapter, "Cultural Autonomy Threatened," introduces the reader to the main issues of cultural synchronization and dissociation. Cultural synchronization is conceptualized as a refinement of imperialism, and dissociation as liberation in the realm of culture. This first chapter addresses the interests and implications of transnational advertising and communication technology, and provides the motivation for the book.

The second chapter, "Resistance to Cultural Synchronization: National Initiatives," exemplifies how nations can provide for their independence or dissociation. The case studies detailed are those of Canada, Australia, Cuba, Peru, Mozambique, Tanzania, and the People's Republic of China. However, as the author sees it, these efforts are a mixture of success and failure.

Chapter three, "Resistance to Cultural Synchronization: The International Discussion," is an account of the historical and conceptual development of the "New International Information Order" (sic). The chapter concludes that the discussion has been too narrowly defined, concentrating on news, and that there has been no clear focus toward coherent objectives in the search for a new international information order.

Chapter four concentrates on the concept of "cultural dissociation" and explores the bases for the formulation and planning of national information systems in the Third World. Dissociation is said to be closely linked with horizontal communication structures between developing countries.

The last chapter discusses the issues involved in regional and international cooperation, and like many other recently published materials, it emphasizes the need for the establishment of clear national communication policies and international cooperation guidelines.

The book is enriching and well documented, but biased in the direction of mainly blaming the U.S. for the ills of Third World nations. A more balanced presentation of cultural influences from multiple sources would constitute a better framework for the understanding of the critical issues discussed. However, Hamelink does strongly acknowledge the flaws in national systems which perpetuate a pattern which allows for dependence.

This book makes good reading for those persons involved in communication policy and planning, but the reader should approach the work with an awareness of the author's critical biases. ■

Reviewed by Felipe Korzenny, Associate Professor of Communication at Michigan State University. He has worked in many developing countries, and has written and published widely on communications.

Available from Longman, Inc., 19 West 44th St., New York, NY 10036, USA, for US$15.00.

4

Health Care: Which Way To Go? An Examination of Issues and Alternatives, edited by Abhay Bang, M.D., and Ashvin J. Patel, M.D., D.H.C. (New Delhi: Medico Friend Circle, 1983), 256 pp.

Readers with an interest in alternative health care and low-cost, community-based health services will be interested in a new publication from the Medico Friend Circle in

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(**Thoughts** continued from page 1)

NQ: That's true, John. We tend to say that interpersonal communication fills in the gap between mediated types of activities, but I think it's the other way around in the Asian countryside—it is mediated activity that fills in the gaps between interpersonal communication.

JM: One of the things I wanted to ask you about has something to do with the question of the direction of development communication in the very small academic circle concerned with development communication (and I'm afraid it's getting smaller). There had been a significant move towards the idea of integrated planning at a national level across the sectors, the concept being that (as we've observed in various places) if each ministry or each sector goes its own way, using radio, and using field-workers, and using a variety of communication resource systems in various villages, they get in each other's way, and the pressure on the communications system can grow very high, very quickly. If you're working with local radio stations, it's less of a problem; but where you have a centralized national radio, it's significantly high. So people have been asking, can we step back and look at the needs of different areas of development, and the needs of the people for different kinds of information and assistance? Is there a way to plan so that we use our limited communication resources better? How have you reacted to that idea, practically, from your experience in the Philippines?

NQ: What you said is already happening. In a way, governments have taken over development communication because they see the importance of harmonizing the different development sectors by the use of communication, so that now they talk about integrating communication in national development plans—that's fine.

One danger, though, is that some people have started to think that development communication is only government communication and so it becomes associated solely with the promotion of government activities. Or they don't think about what's happening at the community level, and of course it is at that level where the details of development communication should be planned and worked out: using community facilities, local communication resources, localized radio stations to do what national radio wouldn't be able to.

JM: Tell us a little bit about your curriculum now in Los Baños.

NQ: Well, it really hasn't changed very much from when we started it. It has a broad base in general education, on top of which we try to train the students in communication concepts and skills, so that's the communication component. And then, one element that we think is important is what we call the technical subject matter component.

In Los Baños it need not be agriculture. It can be any technical field that is available in the university, like forestry management, human ecology, nutrition, health.

JM: So you feel that the professional development communicator, the kind of person you train in your program, should have a good level of knowledge and applied skills in development sectoral areas; that is, a combination of communication skills and concepts *and* health or agriculture or nutrition or some applied sector of development.

NQ: Yes, plus we require additional social science courses because it is partly in those courses where they get development concepts and a broad picture of what's happening in society. One popular course among students who opt for an agricultural component, for instance, is rural sociology.

We think that the technical courses are important, because they expose students to the basic developmental problems; they discipline the students to think of practical, research-based solutions. Otherwise they would know only about the arts, get into speech and theater arts, which are important too, of course, but which would not be the particular emphasis of development communication at this time. Other communication programs in the university take care of those areas.

HR: What sort of fields do your students go into? Do they work with extension agents, and do they find planning jobs in ministries where they can use their skills?

NQ: Yes, many of them work in development agencies, both government and private. These are agencies which now use communication media as aids in their own work. Not many of our students go into broadcasting or newspaper offices; more of them go into the development agencies. A good number of them work in universities because, at least in the Philippines, the regional universities see the importance of having development communication in their curricula.

HR: We could talk a little bit about how you see the future of development communication; about whether you're optimistic about governments' recognizing the importance of early communication planning in projects, or whether the field will be a victim of further economic cutbacks.

NQ: As a profession, I think it will go on and I think it will get stronger, because administrators know the utility of communication. Of course, there's a danger that these skills and concepts will be used only for promotional purposes by administrators—aims which are also quite legitimate. So we will have to see that our students know this and guard against it, that all of their efforts will not be diverted to promotion, and that they will mainly think of communication as a teaching tool for disadvantaged families. So, as I said, I think as a profession, development communication will continue and become stronger.

Now, as a field of study, that depends very much on university funds. The growth of the field will depend on how much money there is. In Los Baños, the administrators have generally recognized the importance of communication. When it comes to setting priorities, however, we cannot say that development communication is Number 1. There will always be other fields that will have higher priorities.

HR: We've had cutbacks in many of our university communications departments, so it seems that in the U.S. we don't even recognize the field as much as you do in the Philippines.

NQ: Well, perhaps we need it more!

JM: That's sort of true. On the other hand, I think in the U.S., and outside of the U.S. as well, that if you look carefully at what people are doing you find far more development communicators at work than we think there are. They have lots of funny titles: they're the director of public information, they're in charge of outreach services, they're called counselors—a variety of names, but they're all basically concerned with the process of social change and with purposely, consciously creating information and getting it to some people for some reason. Somewhere, in the development communication situation, in my experience, you always find some element of learning. Someone in a development agency believes that it would be a good thing for people to learn something. And then organizational structures are created to assist in that process.

NQ: They don't know they are development communicators.

JM: For example, social workers working in poor urban areas in the United States are essentially field workers, and while they don't often use mass media resources (they can't get at those very easily in the U.S.), they're still running community classes, showing films, seeking to help people control their lives better and to improve their lives. They're development communicators.

I think what development communication has done academically, and in that way has had some impact on the profession, is to draw explicitly on social psychology, learning theory, and communication theory to train students conceptually so that they're able to analyze problems well and to think through the problems in terms of the learning needs.

Then, on the other hand, we've tried to give them practical media training and management and planning skills, so that they can take this conceptual knowledge and apply it to problems and then DO SOMETHING—and that's where it becomes professional rather more than academic.

So it's always seemed to me that the ideal development communicator, say with a mas-

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(**Thoughts** continued from page 10)
ter's degree from a fine university like yours, knows enough of these different academic disciplines to work with economists and rural sociologists and others to understand the problems of a family or a series of families, or a village or a region, and identify those areas for learning. Then he or she has the practical skills to go and, if necessary, write some radio scripts, do a little questionnaire for needs assessment, write a proposal to get some money to set up a project—a variety of practical capabilities.

NQ: Yes, and so then you agree with the statement that the development communicator is essentially a mediator between people?

JM: It doesn't do much to increase the status of development communicators to be seen as mediators, but I think it is essentially accurate. You know, this touches on part of the fundamental problem of the field of communication. What can you say? Communication is a fundamental human process. Fair enough. Nobody's going to disagree with you. And then you can elaborate that statement academically through research in learning more about this fundamental human process. Essentially, the social psychologist's attitude toward communications. And that's a very important and useful and interesting academic field. Once you move out of that, it almost always becomes communication *for* . . . e.g., communication for development, communication for social integration, communication for political campaigning, communication for advertising, communication for this, communication for that. That to me seems to reflect what you said, that communication is in a mediating position—it's *for something else,* and that something else always has more prestige, unfortunately. Except perhaps in commercial advertising. There people make a lot of money being good communicators. . . .

HR: Dr. Quebral, in your recent study, "Piloting A Distance Learning System for Small Farmers," you note in the introduction, "Economic growth cannot be sustained—nor is it desirable—unless people learn to eat better, become healthier, and achieve a more satisfying family and community life." When you're teaching your students, do you stress the community, show them that one must move from the theoretical level right down to the community level?

NQ: Yes, we have that part of it, although . . . well, we also talk about development communication at national and international levels, so our students get some of that, too, and the information imbalance issues. They like that, because sometimes they think that talking about agriculture alone is limiting. Mainly they like it because they see the part played by development communication in the larger picture, both nationally and internationally. We don't become too parochial.

HR: Is part of your role, as an educator and as a writer, to be an advocate of development communication, to keep the field in the public's attention?

NQ: Yes. There is one thing that development communication has done, too: it has made people more aware of development. And that's why, going back to curricula, the social science courses are important—so that students will know what they should use their skills for, so that they will be working towards something.

JM: I also think that in general the role of the university is to give people a broad perspective on their lives and their work. Also to offer development communication skills training, but it's such a wonderful opportunity to go to a university that I think we ought to enable the students to have as broad an experience as we can. Universities are there for education, not for development communication. When we run our programs, we have to keep that balance in mind.

NQ: Yes, that's part of university education.

JM: In fact, the international communication environmental system or policy can affect the work of a development communicator very directly—it just takes a couple of decisions about satellite access, orbiting, and financing to affect the resources that the communicator has to work with. So the connection's very direct, and it's important for people to understand where they fit into the world system.

HR: Dr. Quebral, could we end our talk by asking you how the field of development communication has changed since you have been working in it?

NQ: The changes have come from new ideas on development and on communication. And when you talk about communication, you go back to all of the social sciences, to nonformal education. When you talk about development, then, of course, the scope is even broader. So all these things impact on development communication. You're not hard up for concepts and insights. It's *applying* all these concepts that people have thought up that becomes a problem. ■

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John Middleton is Vice-President for Academic Affairs and Director of the School for International Training of the Experiment in International Living in Brattleboro, Vermont, USA. From 1980–1983 he was a member of the AED staff, first in Indonesia and later as Director of Technical Planning Services in Washington, D.C. At the East-West Communication Institute in Honolulu from 1972–80, he worked closely with development communicators in Asia, including Nora Quebral.

(**PRONALF** continued from page 15)
recently completed a course. The aim is to build up their confidence and inspire others to take the plunge and enroll. Literacy students and neo-literates are also encouraged to write in to the program; their letters are read out over the air and are an important stimulus to students to practice their new skills.

The program has managed to hit on a formula which combines maximum participation from its audience with a strong local emphasis. The results have been so successful that the program is now being extended to another state, that of Veracruz, where a special radio program in support of literacy among the sugar cane cutters has been started.

Currently in the planning stages, but due to start up soon as a pilot project, is a literacy-through-radio series using a similar format and organizational structure as the literacy-through-television program *Aprendemos Juntos.*

According to figures for 1970, 65 percent of the population owned one or more radio sets per household. And according to a recent survey carried out by PRONALF, over 80 percent of the country's illiterates own and have use of a radio, irrespective of whether or not they have electricity in the home. The question of electricity is extremely important, as only 28 percent of the population had electricity in their homes in 1970. Whereas the transistor radio operates cheaply on batteries, television is the privilege of those rich enough to own one and to have the electricity to use it.

The proposed radio literacy project will use a workbook in combination with classes, supported by the *visitador* and the *orientador,* in the same way as television literacy. The course is based on the generative word method, but there is greater emphasis on local and regional content. Owing to the nature of radio literacy, the course will take longer to complete than either the direct or the television method.

The Importance of Media

At the time of writing this article PRONALF has been in operation for just under 18 months. It began with an ambitious goal and a single option for the illiterate wanting to study. As the program has matured and reflected on its achievements and shortcomings, media such as radio and television are playing an increasingly important role in reaching illiterates who for reasons of time, working hours, distance, or 'shame' are unable to attend the group classes using the direct method. ■

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On File at ERIC

Reports and papers from the ERIC (Educational Resources Information Center) files reviewed in this column deal with distance education, instructional technology, communication media used in support of development projects, teaching children information-handling skills, and nonformal education and the handicapped. All are available on microfiche and some in paper copy from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia 22210, USA.

- Daniel, John S. and others, Eds. ***Learning at a Distance: A World Perspective.*** 1982. 343pp. (ED 222 635)

The proceedings of the 1982 World Conference of the International Council for Correspondence Education held in Vancouver, British Columbia, this book includes papers or abstracts from more than 120 authors representing some 25 countries. The 118 papers provide a state-of-the-art review of distance education in the early 1980s. They are divided into seven sections, and the first paper in each section gives an introduction to the topic. The topics addressed include (1) important international trends (10 papers); (2) the contribution of distance education to national development (16 papers); (3) recent research and developments in distance learning (18 papers); (4) the difficult relationship between the mass-produced learning package and the diverse student base (13 papers); (5) the process of policy-making and management (22 papers); (6) approaches needed to provide instruction on topics varying from music to affective relationships (19 papers); and (7) the contributions of communications media and computer technology (20 papers). Appended materials include a glossary, a bibliography, notes on contributors, and author and subject indexes. Available from EDRS in microfiche for 97¢ or in paper copy for $24.90.

- Hollaway, Robert E. ***Technology Transfer and Instructional Development.*** 1982. 25pp. (ED 222 185)

This discussion of some of the factors involved in the successful transfer of instructional technology argues that this transfer is the last step in the knowledge cycle, preceded by invention, technical and commercial development, and dissemination. Technology includes both equipment and the practical knowledge needed for application. Industrialized nations package technology; however, little practical knowledge is transferred with the packages. Rather, the knowledge remains with the originator or imported technical staff, maximizing short-term implementation. Without adaptation, however, long-term failure is probable. Instructional development is generally described as a systematic decision-making process. In practice, the process has frequently been an effort to develop a convergent, closed system. Such systems appear clear and unambiguous, appeal to administrators and funding sources, and are efficient in controlled settings. Transferring technology to new settings may require an alternative instructional development process that makes fewer assumptions about outcomes. Such a process would assume that technology will evolve in an open system in a kind of reinvention cycle. Development-as-reinvention appears less exact and is more expensive in implementation. In return, it offers a higher probability for long-term success. Finally, through a gradual socialization of the technology and the recipient, it offers opportunities to examine second-order consequences. It is recommended that funding go to projects designed to build the capacity of people in the recipient country. Available from EDRS in microfiche for 97¢ or in paper copy for $2.15.

- ***Project Profiles. A.I.D. Studies in Educational Technology and Development Communications.*** 1982. 396pp. (ED 225 542; includes English, French, and Spanish versions)

These profiles contain brief case studies showing how communication media are successfully used to support development projects in a variety of fields and international settings. Projects described emphasize agriculture, health, nutrition, population, education (primary and middle grades, adult, and distance), and integrated development. Project descriptions are presented in a uniform, two-page format listing target and audience, objectives, media, donors/sponsors, duration, contacts, project description, results, points of note, and references. The English version contains 72 profiles, while the French and Spanish language versions contain only 45 project profiles each. The index in the English language version is arranged in chart form, listing projects by sector, country, title, media use (audiovisual aids, audiocassettes, correspondence, film, folk media, interpersonal, print, radio, two-way satellite, and television), and sponsor/financing (AID participation, international donors, national government, and self or local financing). Names and addresses have been updated to show current contact data. Available from EDRS in microfiche for 97¢ or in paper copy for $28.40.

- Irving, Ann, Ed. ***Instructional Materials for Developing Information Concepts and Information-Handling Skills in Schoolchildren: An International Study.*** 1981. 69pp. (ED 226 758)

Based on a survey covering 56 countries, this Unesco report lists internationally relevant instructional materials and research aimed at familiarizing school children with information concepts and skills, and also discusses the creation of new instructional materials in this area. The study's aims, methods, and rationale are briefly described, as well as the skills involved in information-handling at a child's level. The partially annotated bibliography which is provided contains 98 items—mostly of European origin—on children's information concepts and their reading, studying, and library skills. Bibliographies and literature reviews, reports of current research, background reading for teachers, and descriptions of teaching methods and materials are among the items included. Slides and films, overhead transparencies, and graphic and textual printed materials are noted as three appropriate formats for student programs. A list of the countries and territories contacted for this study is appended. Available from EDRS in microfiche only for 97¢.

- ***Non-Formal Education and the Handicapped in Developing Countries: A Selected, Annotated Bibliography. Annotated Bibliography #7.*** 1982. 35pp. (ED 225 597)

Compiled from the resource collection of Michigan State University's Non-Formal Education Information Center, this bibliography presents approximately 50 international publications on topics ranging from the education, environment, vocational training, rehabilitation, and health of the disabled to strategies for preventing disabilities, as well as a listing of 26 individuals and organizations worldwide who are interested in nonformal education and the handicapped. Three important themes covered by the citations are noted as: (1) the development of relevant community-based training and rehabilitation programs that reflect local cultural and social contexts and promote the participation and integration of the handicapped in mainstream society; (2) the special needs of handicapped children, including the long-term personal and social benefits attained from receiving education, vocational training, and rehabilitation at an early age; and (3) the need for educating the non-handicapped to change stereotyped attitudes. Titles listed include discussions of many programs in Asia, Latin America, and Africa. Books, pamphlets, directories, reports, journals, newsletters, special issues, and articles are listed, and addresses are provided for individuals, organizations, and sources of cited publications. Annotations indicate the availability of the publications cited in languages other than English. A list of the staff of the Non-Formal Education Information Center from 1976 to 1982 concludes the publication. Available from EDRS in microfiche for 97¢ or in paper copy for $3.90. ■

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(**Checklist** continued from page 9)

India. While some of the judgements in "Health Care: Which Way To Go?" may seem harsh (one chapter, for example, is entitled "Doctors in the drug industry's pocket"), the book accurately represents the increasingly widely held view that medicine must be demystified, made preventative as well as curative, and brought within the reach of *all* the people if it is to help in any way the millions of people who will never be able to have access to modern treatment facilities. While this may not reflect the prevailing position of the medical establishment, it is the passionately held view of the physicians and community health experts whose writings make up this interesting and at times provocative book.

Drawn from articles published in the monthly Medico Friend Circle *Bulletin,* the anthology reflects, as the publisher states, "the attempts being made by socially conscious medicos in India to analyse critically their own profession and try to grapple with alternative strategies . . . for a just, rational, and humanitarian medical system."

The collection includes essays on herbal therapy ("Ayurvedic Drugs") with lists of plants and their effects; discusses case histories of the effects of poverty on disease; presents a statistical analysis of malnutrition in pregnant and lactating women; offers an eye-opening article about sexual exploitation of nurses by doctors ("How to motivate doctors to go to rural areas? Appoint beautiful nurses at the Primary Health Centres!"); and considers such diverse health-related topics as community water supplies, the politicizing of health care, oral rehydration therapy, and adverse effects of mass cholera vaccination.

A strength of the book is that instead of merely criticizing existing practices, it makes a point of offering suggestions for alternative ways of doing things. The authors provide many models and examples. In the chapter on training *dais* (traditional birth attendants) to follow aseptic practices and current techniques, for example, the author emphasizes that standard teaching aids are not going to be appropriate without careful testing and appropriate modification. In the case of the illiterate *dai,* who may have 30 years of work experience but no understanding of modern science, he suggests as a training technique "guided gossip-type storytelling sessions" to elicit and build on each *dai's* past experience in a positive way.

The Medico Friend Circle believes that "a fundamental change must occur in the existing health system. Within the new system, people must gain control over their own health; nurses and other paramedics must not be regarded as inferior to doctors; decentralization should occur as much as possible, and traditional forms of medical care must be encouraged. . . ." The urgency of this belief is reflected in the 18 articles in the collection.

The book offers much to think about. Although some people may be put off by the rhetoric, "Health Care: Which Way To Go?" nevertheless performs a valuable service in trying to break traditional barriers and examine old problems of health care in non-traditional (that is, nonWestern) ways. ■

Reviewed by Heddy F. Reid.

Available from Voluntary Health Association of India, C14, Community Centre Safderjang Development Area, New Delhi 110-016, India, for Rs. 10 in India and US$4 elsewhere.

(**Communications** continued from page 5)

to involve the communities and interest groups in decision-making. A thorough understanding of the implications of the project through such channels would generate consensus and attract strong community support for its immediate and long-term objectives.

Educational Innovation as a Non-technological Innovation

7. Educational innovations should be seen more in terms of a non-technological innovation. Educational planners and educational technology practitioners should resist the temptation to apply industry and business-oriented planning and implementation approaches to the management of educational innovations in developing countries. Strategies to implement educational technology should make room for a gradual phase-in. Implementation schedules should be flexible and should have a built-in mechanism for analysis in order to make room for midstream corrective measures that would ensure continuity. The process whereby project characteristics are modified to allow for an adaptation to the changing institutional setting, and vice versa, should be encouraged. This can be achieved by formulating projects that have the following characteristics:

a. Project objectives should be such that they can be reduced or modified during implementation.

b. Project implementation schedules should be in phases, simple and flexible enough to allow adaptation and to ensure incorporation into the existing system.

c. Expectations of the outcomes of the project should not be too high and should be based on criteria relevant to circumstances in a given setting.

d. Results should be measured not only in terms of short-term instructional effectiveness but also in terms of long-term social behavioral changes.

e. Implementation monitoring should be consistent and should provide information for midstream changes in schedule and organizational pattern.

Regular Research on Policies and Implementation Strategies

8. Policies and implementation strategies of technical assistance programs supporting educational development in developing countries should be subjected to regular analysis on a case-by-case basis, and findings should be made more open and accessible to the public than the present practice allows.

Conclusion

The search for new resources and strategies to support educational reforms in Africa has had its share of failures and successes. All in all, the picture is not as bright as was expected. Communication technologies were expected to stimulate rapid expansion of educational opportunities in order to produce the needed human resources to support development efforts in post-independence Africa. Because of weak national economies and lack of an adequate local technological base, earlier large-scale efforts to transfer modern educational technologies to Africa had a minimal effect on the quality and quantity of education. Some expansion did occur. But the question is whether it was adequate or appropriate enough to support effectively the development efforts of post-independence Africa.

In Africa generally, there are still serious teacher shortages on all levels of education. The rate of drop-out, repetition, and illiteracy has not decreased significantly. On the economic side, the rate of youth unemployment is increasing, living conditions in most African countries have deteriorated, and national economies are rapidly declining, resulting in political unrest. The educational technology miracle did not happen.

Or was it that technology was 'mis-transfered' and misapplied? In retrospect, it is easy to see how such failures could have been avoided with better planning and implementation. African societies, however, have undergone tremendous political and economic changes. New situations have arisen, bringing about new problems and new challenges to educational development efforts. The search will continue for new strategies and resources to help improve education and satisfy growing manpower needs. Meanwhile the technological and economic gap between the industrialized societies and most African countries continues to widen. If the new and advanced communication technologies are to make any positive impact on Africa's educational development effort, the process of transferring them from the developed nations should be tempered with caution and be guided by the lessons of the last quarter of a century. ■

Dr. Ofori-Ansa is a lecturer in African educational development and culture at Howard University in Washington, D.C. He was formerly a professor of education at Accra Teacher Training College in Ghana.

(**Villages** continued from page 6)

center.

Eventually, I found the best way was to involve villagers directly in the planning and production of picture series.

My method was to choose a village where a development idea had been successfully applied, and then to select a group of villagers and ask them to tell with pictures why they had adopted the idea. They planned the story-line and composed the pictures; I shot them. The narration was written jointly and recorded by the villagers. The final product became a testimonial from one village group to other village groups on why they adopted a particular idea, ranging from ox-ploughs to sanitary latrines.

The final step was to create an effective method of using picture series in villages. I settled on a slide series with a recorded narration as format. I then designed a means of distribution which depended on the villagers themselves. This was an audiovisual kit which can be carried on the back of a bicycle and includes a 12-volt projector and a cassette recorder, both powered by generators fitted to the bicycle. It requires no petrol and no batteries. The advantage of this small kit is that it can be left in the village for weeks at a time. A village worker, paid on a part-time basis, can show the picture and answer questions. Many small showings can be scheduled at times which are convenient for the people in the village.

Reporting on Concrete Results

As a result of producing these picture series with villagers, I found that I also developed a new attitude toward the role of communication workers in development. I began to see specialists in development communications primarily as journalists, not producers. The first requirement of a successful picture series, I found, was a successful village project on which to base it.

This would mean, for instance, that to educate village women about a balanced diet, the first step would be to find a village where this has actually happened. This might be a village where a cooperative had started to raise chickens and a group of women had planted beans. Should a setback have occurred, such as the treasurer running off with the money, this would also be portrayed in the picture series, along with the remedial action taken. The essential characteristic of the village selected for the series would be that the results of the project were visible. Picture series for villagers are effective only if they are based on actual occurrences, not merely on advocacy or promotion.

What this means is that communications workers must be effective journalists if they are to be effective educators. Before snapping the first picture or drawing the first storyboard, they must be able to see how a project is operating in the field. Only then will they be able to make audiovisual or other aids which present concrete, realistic options likely to motivate villagers to reassess their own practices in favor of more productive alternatives. ■

John Siceloff has worked in communications and development in Afghanistan, Peru, and Tanzania, and is working on a book on the subject.

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(**Computers** continued from page 2)

though the smaller memory and storage space available in microcomputers precludes easy adaptation of the bigger programs.

Teaching programs for microcomputers are usually small efforts, aimed at providing game-like instructional activities to supplement teaching in specific topics. The programs are intended for occasional rather than daily use, and few guidelines exist to help teachers integrate the use of CAI programs into their planned curriculum. Only a knowledgeable and well-trained teacher can successfully select, from the miscellany of available small programs, a mixture that is well integrated with on-going instruction and well suited to the needs of individual students.

Not much research has yet been undertaken on the effectiveness of programs produced for microcomputers. However, one would expect greater variance in quality among the microcomputer programs than among programs for larger machines, primarily because small producers of microcomputer software are not subject to the kind of quality control that has existed in producing programs for mainframes and minicomputers. This works in two ways. On the one hand, some independent entrepreneurs have little interest beyond producing a marketable item which may have much immediate appeal but no enduring educational value. On the other hand, precisely because there is less bureaucratic encumbrance, some truly innovative and educationally knowledgeable people are producing excellent programs.

Although there are teaching programs that are remarkably effective, the decision to use a particular program must be based on its cost as well as effectiveness. This is especially true for the developing countries that cannot afford to purchase expensive systems simply to improve the quality of instruction, much as they would like to. Since much of what is taught by educational computer programs could be taught by other means at lesser cost, no matter how good the computer programs may be, they might not be suitable for use in the developing world. This is not to say that all educational applications of computers are out of the question for poorer countries, but the decision to use them ultimately rests on their cost effectiveness, rather than simple effectiveness. It must also be considered that a program that is cost effective in the United States due to savings in labor costs may not be so in another country where teacher salaries are lower.

Even with cost in mind, there are several possible applications of computer-assisted instruction in the educational systems of developing countries. One of these is for remedial instruction, which has proven one of the most cost-effective applications of computers in U.S. schools. For any country that is now providing small-group instruction for students who are below grade-level, drill-and-practice by computer might, in fact, be quite cost effective. A potential problem with this application, however, is the development of suitable software. Programs that are designed for the United States are probably not suitable for most other countries. The content may not be appropriate; reading and sosial studies programs, for example, are specific to both language and culture. The style of instruction and format of programs may also be inappropriate; many of the programs now available for microcomputers are more concerned with motivation than with teaching, which may be neither acceptable nor appropriate in other countries.

Computers for Advanced Courses

Another cost-effective use of computers in education is in classrooms with low student/teacher ratios. This most often occurs in university classes on such advanced technical subjects as topology, thermodynamics, multivariate analysis, and econometrics. In some countries, there may be very few students for even less advanced topics, such as probability theory, differential equations, and organic chemistry. The cost of providing a qualified instructor for only a few students may well be higher than the cost of providing tutorial instruction via computer, especially if the programs can be used, and the development cost shared, by several countries.

A third, and even more promising, possibility is to prepare instructional programs that teach computer literacy and programming. There will be an ever-increasing demand in the Third World for instruction about computers themselves, and there are now few qualified instructors. Several successful experiments have shown that students can learn programming from instructional programs, even in the absence of a teacher. Here again, there may be only a few students in any one location (at least in the immediate future), so the cost savings would thus derive from sharing development costs.

To sum up, many of the common educational applications of computers in the industrialized world today will be in wide use in the Third World in the near future. Particularly likely to be transferred are microcomputers for drill-and-practice and for remedial in-

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(**Computers** continued from page 14)
struction, and specialized technical courses by computer for advanced education.

Cost effectiveness is an issue that needs careful review, with local teacher salaries factored into hardware and software purchasing decisions. As more evaluations of programs and software become available, it will be easier for decision-makers to have a basis on which to judge and compare the merits and relevancy of various systems to their unique situations.

It is hoped that the U.S. experience with CAI over the last 20 years will be of value to developing countries, and that this experience may help such countries to avoid some of the start-up errors that so often go hand-in-hand with the introduction of any new technology. ■

Jamesine Friend has worked in education for 20 years, with over ten years in the design and production of computer-assisted instruction. She was the Overseas Director of the Radio Mathematics Project in Nicaragua.

(**PRONALF** continued from page 16)
course. While newspapers and posters have been amply used for general publicity purposes, PRONALF has employed other more typically Mexican media often in combination with street or community events.

One such use is the *manta,* a printed sheet of canvas which is often strung on buildings or hung across the street to advertise anything from the local dance to the visit of the President. In the case of PRONALF the *manta* was successfully used in combination with street marches designed to call attention to the Program and to recruit *alfabetizadores.* Those taking part in the march are usually *alfabetizadores* or new literates.

Usually accompanying street marches of this kind are mobile sound units giving out information on courses and where to join them. *Volantes* or handouts are also frequently used.

Television

Television was used from the outset by PRONALF as a means of creating public opinion with regard to the illiteracy problem in Mexico. Later it was used to train *alfabetizadores,* but more recently it has come into its own through a television literacy series which has had by far the greatest impact of any of Mexico's educational television programs.

The use of television for calling attention to the importance of adult basic education centered round the theme: *No Hay Desarrollo sin Educación* (Development doesn't happen without education). In the main, these commercials were directed towards an urban audience showing housewives, factory workers, construction site workers, and rural migrants to the city. Messages centered around one of the 14 generative words used in the literacy method.

Although the television was used principally to recruit *alfabetizadores* and to create public opinion, there were some TV spots that were directed to the illiterates. These had a strong emotional appeal; one showed a rural migrant recently arrived in the city trying to find his way about but unable to read street signs or bus numbers; another showed a little girl reading a letter to her grandfather—the letter was from her father working in the United States; another showed a typical Mexican provincial scene, that of the scribe seated on the pavement with his typewriter while a young Mexican girl dictated a loveletter to her boyfriend; another showed a bricklayer—again a recent rural migrant to the city—unsure whether what he was being paid by the boss was what was owed him in wages. The message behind all of these commercials was, learn to read and write so that you can stop depending on others.

By far the most important use of the television in PRONALF, however, has been the television series *Aprendemos Juntos* (Lets Learn Together). *Aprendemos Juntos* combines literacy teaching with a popular drama series something along the lines of Britain's *Coronation Street.* Ten minutes of each 30-minute program is dedicated to the use of the alphabet, and 20 minutes to the lives of six adults who decide to join a literacy group and who all live in the same part of the city. The ten minutes of actual didactic content is dramatized through the participation of the six characters and the *alfabetizador* who is also an actor.

Students following the television series use a specially designed coursebook in combination with the television classes. They receive support from a *visitador,* a tutor who visits them at least once a week at home and an *orientador,* a literate member of the family or a neighbor who provides support and guidance of an informal kind.

The TV series is broadly based on the direct group literacy method. The majority of students study on their own at home. In addition, some study groups have been formed, taking advantage of neighbors who own a television set or community classrooms used by the national system of secondary education through television—*telesecundaria.*

But whereas the direct literacy method uses printed media as a stimulus to the group discussion which precedes learning to read and write, the television literacy method uses dramatized situations. In the series, a study group is formed composed of Doña Chole, a street vendor; El Sonora, an apprentice mechanic; Nacho, an unemployed aspiring boxer; Don Eduardo, a carpenter; Ursula, a servant; and Raquel, a housewife. The *alfabetizador,* Samuel, is a foreman on a building site.

The characters are all played by Mexican actors who to a certain extent have made their fame with the program. The dramatized situations which affect the lives of the characters are those which affect illiterates and the poorer working classes in Mexico in general. Community problems such as lack of drinking water, rubbish collection, transport, etc., are portrayed, as are problems such as being cheated and general corruption.

Aprendemos Juntos surpassed all expectations in the response it has had from the general public, whether illiterate or literate. It owes its success not only to the fact that it manages to combine educational content with an enjoyable dramatized format, but it is also a genuinely Mexican series. The greater part of Mexican television is composed of American films and series; those programs that are produced in Mexico tend to center round passionate dramas of middle and upper middle class Mexican life, little related to the problems and lifestyle of the great majority of Mexicans. *Aprendemos Juntos* sets its characters in a poor working class community; they are true to life and the public identifies with them.

The series is broadcast throughout Mexico on local TV channels. Each course lasts 100 hours of broadcasting time and takes the student four and a half months to complete.

Radio

Radio was perhaps the least used of the media in PRONALF until recently. It is now developing into one of the most important aspects of the program. It offers support for the direct literacy method and develops an alternative literacy-through-radio method similar to the television literacy program. But whereas the TV literacy series has been directed at an essentially urban audience, the radio aims at Mexico's rural population.

The radio support service was set up in July 1982, one year after the start of the program, with the aim of providing publicity for the direct and TV literacy classes, of motivating the adult illiterate to join a study group, and of preventing drop-out, which has been a considerable problem throughout PRONALF's history. At the moment it is in its pilot stage, but results from radio projects set up in three states have been encouraging, and the radio program will be extended to the rest of the country shortly.

The radio program put out by the radio support service is called *Nuestras Palabras* (Our Words), and the emphasis throughout is on the participation of the illiterate, the literacy student, and the neo-literate in the program. The program combines news, chat, and music; the news section gives the latest information on literacy classes and adult education, it puts *alfabetizadores* in contact with each other and answers their queries, while the music is almost always local and regional.

Mexico has a rich and diverse regional musical tradition, which the program *Nuestras Palabras* emphasizes. Pop and western music are frowned upon. An important part of the program is the interviews carried out among adults who are actually studying or who have

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Mexico's National Literacy Program

Mexico's Programa Nacional de Alfabetización *was launched in July 1981 with a goal of making literate one million adults in one year. Linda King de Jardón, who works for the program, describes its use of media.*

Census figures have recorded an illiteracy figure of 6.5 million in Mexico for well over half a century; but while in 1930 this represented 63.6 percent of the adult population, the percentage had decreased to 16.8 percent in 1980. Nevertheless, one in six Mexican adults is illiterate, according to the statistics, and recent studies have estimated that over 26 million adults lack basic education, making the number of functional illiterates much higher. Approximately 60 percent of the illiterate population is female and there is a tendency for the proportion of women illiterates to increase as the overall number of illiterates decreases.

The problem is even more serious when one takes into account the fact that probably at least a third of the illiterates in Mexico do not speak Spanish as their first language, while others do not speak it at all. There are over 50 Indian languages in Mexico with strong local differences between the various languages, making the problem extremely complex, especially in the context of the literacy program. Illiteracy is on the whole largely a rural problem in Mexico, but with the growing number of peasants leaving the countryside to look for work in the big cities, it has recently become an urban problem too.

It is in this context that the *Programa Nacional de Alfabetización* (PRONALF) was created: to offer literacy and numeracy to all adults over the age of 15. A year from the outset, PRONALF had made literate 700,000 adults. The goal of one million was reduced owing to initial difficulties in incorporating students and to public spending cuts brought on by Mexico's current financial problems.

But the literacy program itself ceased to have a temporary nature and was incorporated into the recently created National Institute for Adult Education. This covers not only adult literacy but also primary and secondary education for adults and nonformal education based on community centers known as *salas de cultura.*

Initially, PRONALF used one literacy method and one organizational structure; more recently, however, it has been developing ways of diversifying the types of educational alternatives it offers. In the search for developing new ways of reaching and attending the illiterate population, the media, particularly radio and television, are playing an increasingly important role.

Print Media

The printed media have been used in PRONALF in two main ways: first and perhaps most importantly, as part of the literacy method employed, and second, in diverse and sometimes unusual ways as publicity and information about the Program itself.

PRONALF uses what it calls a direct group method of literacy training. This is broadly based on the Paolo Freire method and uses a series of 14 generative words which are discussed and analyzed in the study group before the student learns to read and write and form new words. Each word was chosen for its relevance in the Mexican context and for its syllabic variety. The method demands that the word be broken down into its different syllables in such a way that from the syllables new words may be formed.

Hence from the word pala (spade), the first word which the student learns, are formed the syllables pa pi po pu pe and la li lo lu le; from these new words can be formed such as pipa (pipe) pila (battery) pelo (hair) etc. The words used in the classes cover a variety of situations: pala (space), vacuna (vaccine), basura (rubbish), medicina (medicine), cantina (bar), trabajo (work), guitarra (guitar), familia (family), leche (milk), tortilla (maize pancake), piñata (Mexican toy or game), casa (house), mercado (market), and educación (education).

To support the discussion phase of the literacy class, large-scale black-and-white photographs illustrating the different generative words are presented for decodification and analysis by the students. For the word vaccine, for example, there is a photograph of a farmer injecting his cattle and another of a mother holding her baby while a nurse applies an innoculation. Once the word has been decoded through the use of the photographs, printed strips show the word itself and the syllables it contains.

The printed media also play an important part in the publicity and information for the program on two levels. On the one hand they are used to create awareness of the illiteracy problem among the general public, in the main through newspaper advertisements; on the other, as means of recruiting *alfabetizadores* (literacy teachers) to teach reading and writing.

For obvious reasons, the printed media have been used less than television and radio in inviting illiterates to register for a literacy

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