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EDUCATIONAL TECHNOLOGY IN THE DEVELOPING
COUNTRIES: THE UNITED STATES ROLE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

David George Gueulette, B.A.

* * * * *

The Ohio State University
1972

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"Mass Media in Adult Education - A Book Review," Educational Broadcast-
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"Mass Media in Adult Education in the Developing Countries," Mass Media/

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CHAPTER I

THE PROBLEM - AN ISSUE

The Issue

In an article titled, "The Use of Mass Media in Adult Education in Countries Outside the U.S. and Canada: A Literature Review," which appeared in the Mass Media/Adult Education newsletter, the June/July, 1971 issue, Henry R. Cassirer, the former head of UNESCO's Department of Mass Communication, quoted an excerpt from The New Media:

Memo to Educational Planners. The excerpt is as follows:

Many more people have to be educated for a continually increasing span of their lives so that they may absorb an ever-expanding and changing body of knowledge.¹

He went on to explain what this meant for education and mass media:

To cope with the exigencies of this revolutionary situation arising from the need to educate adults in a constantly changing society, it has become essential to find new methods and make use of mass media for this purpose. The considerable strides made in recent years in the press, radio, film and television world have provided increased opportunities for the utilization of these media in various aspects of education, i.e. out-of-school education, literacy, rural development and family planning. An UNESCO, a division of the Department of Mass Communication is specifically responsible for the investigation and the

implementation of these possibilities in Member States. 2

In the remaining sections of the article, Cassirer went on to document just how UNESCO has been instrumental in introducing and supporting the use of mass media in education in several developed and developing countries.

Responding to the Cassirer case for UNESCO's activities in mass media, education and development, this writer wrote an attack on UNESCO and what was termed the "ethics" of Western experts' involvement in the affairs of the less-advanced nations. He stated:

UNESCO has contributed much to the general approach to the utilization of mass media in Third World nations and consequently has no doubt established the pervasive dogmatic attitude toward bringing to these countries highly technical, costly, mostly unnecessary, schemes for schooling. Beside many efforts to industrialize and mechanize the educational processes of developing lands, UNESCO has been energetic in the publishing and distribution of the 'always successful programs' and imploring other organizations to follow their lead. 3

Further, he stated that individual experts in the United States and Western nations as well as private and public institutions in these countries have joined in the effort.

He cited Wilbur Schramm as the only communication expert to have raised the question of "ethics" in communication and education planning. Schramm is on the right track but lacking in a critical understanding of the process of manipulation, the writer maintained. He

---

2Ibid.

associated the process of manipulation with traditional imperialistic activities of the Western nations.

This initial confrontation between Cassirer and the author continued in the form of a second and third-round of responses and comments on the issue from interested third parties. One such response that really brought the question of the role that UNESCO plays in educational technology and development into focus, in this writer's opinion, was written for Mass Media/Adult Education by Professor Hilton Power. Power had been a UNESCO consultant to Thailand and knew from personal experience how UNESCO operated and its effects on the educational systems of that country. He made a statement which shed much more light on the significance of UNESCO's activities. He said:

Mr. Guculette views UNESCO as a covert operation engaged in furthering the activities of the hardware and software arms of the educational technology industry. This may well be the case, but to my knowledge they have been at most only marginally successful. There are a number of views about UNESCO's real contribution to world-wide education—almost as many views as there are member states. I would suggest its role has been far less pervasive and significant in influencing the decisions of member states than the World Bank, for example, or AID.

Power went on to point out that UNESCO's budget was too small to permit it really to have much influence on the activities of the poorer developing nations. He also indicated that developing nations often refuse UNESCO and U.S. help in educational programs in order to maintain their

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5Tbid.
independence from Western influence.

This view that UNESCO is really a small operation compared to just one of the agencies in the United States giving assistance to the educational systems of developing countries—U.S. AID (The United States Agency for International Development)—suggested that the really dominant factor in education and technology in these countries must be the United States.

One prime concern of this dissertation is to ascertain how the United States, as a major influence in the field of educational technology for development, carries out its role.

Background on the U.S. Role

As new and dramatic devices and methods are being constantly developed and implemented in the field of educational technology, the United States has increasingly become a center for their use and exportation. The technical and industrial base of the United States has encouraged and supported the development of capital-intensive and sophisticated new teaching machinery. This new area of educational technology is essentially composed of what Schramm calls: "third and fourth generation media."^6

---

^6 Wilbur Schramm's *Mass Media and National Development: The Role of Information in Developing Countries* (Stanford, Calif.: Stanford University Press, 1965), pp. 141-144, discusses first and second-generation media as well. First-generation media are those that require no machine or electronic devices. They are, for example, charts, graphs, written materials, exhibits, models and the like. Second-generation media are characterized by the necessity of introducing a machine (printing press) into the communication process. Textbooks, workbooks, and tests depend on duplication and mass distribution.
Third-generation media are those items such as: photographs, slides, strip films, silent motion pictures, recordings, motion pictures, radios and televisions. Schramm believes that this generation of media depends on the machine for communication. The newest of these media is about 35 years old; and, the oldest about 100 years old. This generation of media is well-known and often used in the developing countries. Television and radio are not widely used as yet; but, there is a noticeable increase in their use for normal communications and education. He adds that communications satellites are only extensions of this generation of media. They extend their range.

Fourth-generation media are such things as: programmed instruction, language laboratories, and digital computers used in teaching and information retrieval. With this fourth generation of media, the machine and man communicate with each other. The machine takes on an active role, whereas, in the case of the third-generation the media were passive. These fourth-generation media are not widely found in the developing countries and are only in the experimental stages even in most of the developed nations. Programed instruction which "automates" teaching, language labs which provide "expert" speaking examples, and computers which allow rapid information retrieval and learning interaction are all dependent upon highly technical and often expensive apparatus. It takes an advanced industrial nation to develop and maintain such systems.

While the United States has been occupied developing these third- and fourth-generation media for use domestically in education, it has also shared some of these developments with developed and developing
nations around the world.

Especially in the developing countries, U.S. technical and financial assistance has been instrumental in providing these new media to expand and improve education. Many less-advanced nations have readily accepted help to introduce and implement this technology.

Developing countries have been using media in several ways for overall educational development. Schramm has listed four of these in the case of broadcasting media.\(^7\) While this list, originally created by Henri Dieuzeide, explicates broadcasting media, it also indicates the general applications of media to education. Enrichment broadcasting is that which is integrated into classroom teaching to make a qualitative improvement in teaching. Broadcasting designed to palliate the deficiencies of an existing educational system is aimed at substituting media for unqualified teachers or for upgrading present ones. It makes a quantitative improvement in a system. Extension broadcasting extends or prolongs educating opportunities for individuals or groups in their homes or elsewhere. It assumes some previous schooling. Development broadcasting is designed to carry education to communities where there has never been a school. Radio and television conduct a mass education activity which precedes or replaces schools.

In actuality, these distinctions in the use of broadcasting media often become blurred. Countries usually have a variety of objectives for the use of radio and, or television. However, for some countries a particular definition may be accurate.

\(^7\)Ibid., 166.
The flow of educational technology to the developing countries from the United States and other advanced nations is also becoming more conspicuous for two reasons. First, there has been a series of awakenings to the potentialities of education and technology for economic and social development. Coombs has even called these awakenings "revolutions." Second, there has been a tremendous increase in the number of developing nations. Sovereign nations increased from 50 in 1945 to 120 in 1964 to more than 140 by 1972. This evolution of sovereign states has inevitably led to an increase in so-called developing nations.

The title, "developing nations" is currently applied to those countries in Asia, Africa and Latin America that have low GNP's, (Gross National Products), and that seem to exhibit some interest and potential for economic and social growth. This definition is very broad. In Asia, all countries, save Japan, the Soviet Union and Red China fall into this category. In Africa, all the nations, with the possible exception of South Africa and Rhodesia, are listed as developing. In Latin America, no nation is considered developed. If these broad definitions are employed, there are many more developing nations than developed.

In most cases, Eastern European nations and poorer Western European countries are not considered in the developing stage. No North American country, excluding Mexico, is generally listed as developing.

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Recent Comments on the U.S. Role in Educational Technology and the Developing Countries: The Need for Research.

Wilbur Schramm is, as previously stated, perhaps the first American expert to suggest that there may be "ethical" questions related to the large-scale application of centrally controlled and often standardized and autocratic educational media systems. However, he ended his discussion of the issue by stating that better health, a higher standard of living and an improved environment, that may result from the extensive use of educational media, are worth the risk.

Many other authors in the field take a more traditional view that improved educational communications and media systems necessarily lead to improved economic, social and sometimes cultural conditions.

Aiding development, especially educational development, may be simply altruism on the part of the advanced nations. Richard Meier, for example, in his Development Planning, mentioned that the character of the educational system as it is planned and supported by an extraneous donor nation will be reflective of the philosophies and values of the donor country. It is possible that as donor nations play a more important role in educational technology, the developing countries lose more and more of their self-determination and autonomy. The most influential donor nations thus have a disproportionate impact on the educational and general development of the Third World nations.

It seems, therefore, that it is necessary to identify and

9Schramm, Mass Media, p. 34.

appraise the magnitude and quality of the activities of the developed nations in this area. An examination of the U.S. role might be helpful in determining the impact that the donor nations have had.

Such a critical study of U.S. involvement must include as many examples of support as possible. It should also include foreign examples so that a comparison can be made between the United States and the other developed nations.

Schramm and others have compiled case studies of American and other projects and these are useful in the study of advanced nation activities. These earlier works do not cover the wide-range of new cases that are now available for study. Many new cases have come to light as a result of additional activity and improved reporting and retrieval procedures.

Christopher Sterling, an authority in the field of communication and education literature, has noted that there are only two basic sources of information on the cases of educational technology in the developing countries.11 One is Schramm's Mass Media and National Development,12 and the others are UNESCO's and IIEP's (International Institute for Educational Planning) New Educational Media in Action: Case Studies for Planners13 and The New Media: Memo to Educational

---


12Schramm, Mass Media.

Planners. Each of the latter constitutes a four volume study. Sterling also commented on the need for continuing study and reporting of media projects in the developing nations. Building a more comprehensive view of the field is important, not only for understanding the American role, but also for giving possible data to all who are concerned with individual and group activities in the area.

Sterling also listed several other important sources for information on educational technology in the developing countries that might be used to develop an over-view of the field. These sources include: the Gazette, the International Journal of the Organization for Mass Communications Studies; the European Broadcasting Review, a publication of the European Broadcasting Union; Reports and Papers in Mass Communication, a UNESCO series; and several works by Pye, Schramm, Lerner, and others.

UNESCO's Proposals for an International Program of Communication Research, in a chapter titled "What Kind of Research Do We Need?" suggested that communications research is essentially a field of problem study area and that it should incorporate a wide variety of disciplines. It went on to say that the research approach should be motivated by two overriding considerations: it should cover all aspects of the field; it should consider the wider context in which it operates; for example, economic, social, and political factors must be examined. Research should cover the total environment and include communications as an ele-


Research should also be problem and policy oriented. The main emphasis must be on the solution of social problems. The section concluded that there is no reason why theoretical, practical and normative considerations should be regarded as incompatible.

The Diagram of This Study

A current comprehensive compilation and examination of cases of U.S. and developed nation involvement in the educational technology projects of the less-advanced countries would be instrumental in assessing the role that these donor nations, especially the United States, play. Additionally, such a study might yield specific information on various other issues:

1. This study would focus on American activities touching only lightly on related other cases. A study with this emphasis has not been made to date.

2. This history would up-date earlier efforts that have attempted to list educational technology activities. Additional new projects and donor countries have been reported that round out the view of the field.

3. A comparison of the U.S. role to those of other developed nations would be possible, unique, and important to the understanding of this field.

4. It is possible that future U.S. activities, and those of other developed and developing nations, might be indicated by past operations.

5. Questions relating to the impact of the developed nations on Third
World lands, such as the "ethics" of communications in education for development could be considered with more accurate data.

These outcomes are tentative, of course, but could well follow from this study. The "historical research" method seems the best suited for this kind of study. Historical research has as its chief purpose determining the facts that fit into a significant time sequence and the relationships among these facts; usually concerned with some delimited subject. It is concerned with causes, but these may have to be imputed. It implies a story will be reconstructed from observations that were not made especially for the purpose of the study. Sources must be discovered and evaluated as to authenticity and accuracy. This type of research is especially valuable in providing information that is necessary to determine the history, role, or sequence of events that, in turn, explains or illuminates a phenomenon.

Procedures

The fact that developments in this new field are occurring at such a rapid rate forces continual and drastic revision of data. One organization involved in this collection and revision of data is the Educational Resources Information Center (ERIC), with its nineteen clearing-houses. Especially active in the area of this dissertation are the ERIC centers at Syracuse and Stanford which work in the fields of adult education and educational communications respectively. The Stanford center specializes in media research and has identified and abstracted many items relating to the field. It contributes to the two national institutions.

\[16]\text{The "historical method" as defined in Good's Dictionary of Education.}\]
publications of the ERIC system: Current Index to Journals in Education and Research in Education. The former catalogues items from journals while the latter records and abstracts materials from sources other than journals both from the United States and abroad.

ERIC represents, possibly, the most comprehensive collection of reports and documents on educational technology in the developing countries that can be found in the United States. Thus, the ERIC system is the first place to begin the research on U.S. activities in the field.

A computer search on topics related to the general heading of educational technology in the developing countries located in the ERIC system was initiated in the Spring of 1971. That search yielded numerous items on educational technology in the developing countries and U.S. involvement. Topic indicators included: media, education, developing nations; with sub-headings such as: broadcasting, television, radio, and educational technology.

The success of this first computer run suggested that a later search might be useful. It was initiated in February of 1972. The second run provided somewhat more data, but not as much as expected. Apparently the time lapse between the first and second run was not sufficient to allow a much greater number of entries.

The second run located over one hundred items that were pertinent to the study. These items were consulted in both the abstract and complete forms after they were judged useful.

A second step in the collection of data centered on extensive reading and checking of current texts in the field. Current bibliographies, research reports, texts on educational development and media and
well-known academic works were reviewed and cross-referenced. This approach turned up as much or more information than the ERIC search. However, much of the data found in ERIC materials also turned up in conventional publications. This could be expected.

In addition to the ERIC search and the review of various works, series such as the Ford Foundation Annual Reports were checked as well as the U.S. Congressional Record. Too, the many U.S. and foreign professional journals dealing with communications, development and education were examined. The European Broadcasting Review, The Educational Broadcasting Review, and AV Communication were particularly helpful.

After the literature search was completed, the cases of U.S. activity were separated from foreign examples by country. Cases and countries were separated by geographic areas: Africa and the Middle East; Asia and the Pacific Islands; and Latin America and the Caribbean.

Additionally, the data on each case were selected to emphasize media types, specific U.S. involvement and geographic areas. This made it possible to judge U.S. activities from various points of reference. Preceding the case studies, brief histories of government, private and international organization support of educational technology in the developing countries were developed.

The data presented in the compilation and separation of media types, U.S. support, and geographic area figured in the conclusions that were developed.

The final portion of the study is an analysis of the cases as they are evaluated in the earlier sections of the dissertation. The factors for judging U.S. involvement were evolved from the study itself.
These factors were identified as important in specific cases and have a wider application to the entire study. They are:

1. Specific Media Types Supported by the United States.
2. Types of Educational Activity Aided.
3. The exact nature of U.S. Assistance.
4. The extent of U.S. Aid.
5. Dates of U.S. Support to Projects.
6. Geographic Areas Receiving Aid.

Some additional observations are included in the conclusion.

The question of the role of the United States in the field may be resolved.

This is the first documentation of U.S. involvement in educational technology in the developing countries.
CHAPTER II

DIRECT FEDERAL SUPPORT OF EDUCATIONAL PROJECTS

History

In 1946, the Congress of the United States of America approved the so-called Fulbright Amendment.\(^1\) This amendment provided for the exchange of scholars between the United States and nations of the "free world." In that same year, the Congress also endorsed United States membership in UNESCO. These two actions, not seriously opposed in Congress, began a new era in U.S. international relations. These events demonstrated a new long-range design in the nation's quest for peace. Education and culture were thus instruments of this peaceful plan for world relations.

The United States Information and Education Exchange Act was passed by Congress in 1948. This Act, sponsored by Representative Karl Mundt and Senator Alexander Smith, was a multifaceted measure designed to provide both a world-wide information service and a broad educational exchange program. The last part of the measure was intended to complement and expand the Fulbright Amendment.

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\(^1\)Philip Coombs, former Assistant Secretary of State for Educational and Cultural Affairs, has written a most excellent book titled *The Fourth Dimension of Foreign Policy: Education and Cultural Affairs*, which has been a useful source of information on the history of U.S. activities in the area of educational development in the less-advanced nations.
Congressmen, who had gone overseas in the late 1940's, had been appalled at the misrepresentations or misunderstandings of the United States by foreign nationals that they had discovered. The lack of understanding of American society and policy even among apparent friends caused them great concern. The Smith-Mundt Act was something of a reaction to the dismay that these Congressional members brought back from Europe and Asia. The bill dealt with several troublesome areas: information, education and propaganda.

However, it is important to note that the bill also included technical assistance as a major part of educational exchange. Under this Act, the United States would provide for the exchange of students on a reciprocal basis. Students, trainees, teachers, guest instructors, professors and leaders in various fields of specialized knowledge and skills could be exchanged. Additionally, books and periodicals could be interchanged; and, these publications translated. Other educational materials could be prepared, distributed and exchanged. Money grants, services and materials for schools, libraries and community centers abroad were authorized. The recipients of these grants, services and materials had to be founded or sponsored by American citizens. However, these provisions could be applied to individuals, and public or private nonprofit organizations in the United States or any country abroad. One very important provision of the Act was that the Congress could provide "hard" dollars for all of these purposes. ("Soft" dollars usually are foreign currencies held by the United States. "Hard" currency is money appropriated by the U.S. Congress and is usually U.S. dollars.)
By the Spring of 1950, the exchange programs were operating at full tilt; however, they were being surpassed in size and scope by the expanding information program. Philip Coombs observed that the exchange programs were quickly becoming the "maiden" of the information service. He also pointed out that the emphasis in both efforts had shifted to "quick impact" type operations. At this time a State Department reorganization separated the information service from the exchange program. It also put the whole area of exchanges into a heading titled "media services." This category included radio, press, motion pictures, libraries, and, to many, seemed inappropriate for the exchange of persons.

Early in the Eisenhower Administration, all overseas information activities had been transferred from the State Department to the newly-formed and semi-autonomous United States Information Agency (USIA). Exchange programs were neglected in this shuffle and all but forgotten. Exchange programs are still a small State Department operation.

Even though the exchange programs were almost forgotten in the 1950's, other educational operations were added to the structure of U.S. foreign policy. In 1950, the Congress approved the so-called "Point Four" plan which stressed the overall economic development of the emerging nations. This plan had a global design and was very ambitious.

An aftermath of the "Point Four" plan passage was the formation of the Technical Cooperation Administration (TCA), a semi-autonomous agency in the State Department, independent of the exchange programs.

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Almost immediately the TCA began to carry out its mission of "helping other nations develop their indigenous strengths." \(^3\) Coombs notes that:

> Expenditures were heavy in certain countries (such as India and Egypt) where the U.S. government happened to own large supplies of unused local currencies, but very inadequate elsewhere, as in Africa and Latin America, where programs depended on dollars and where U.S. commitments were expanding rapidly. \(^4\)

These counterpart funds were labeled "PL480 funds" and were used extensively by U.S. AID and other agencies for funding specific projects.

The Bureau of Educational and Cultural Affairs, sometimes called the "CU", was founded late in the Eisenhower period. It was designed to coordinate all activities that related to cultural and educational affairs. In 1961, Kennedy appointed the first Assistant Secretary of State for Educational and Cultural Affairs, Philip Coombs. The new Assistant Secretary had several primary responsibilities: to direct the State Department's own exchange program; to give policy guidance in this field to all federal agencies and help harmonize their efforts; to exercise U.S. leadership on policies and programs of international organizations concerned with educational and cultural affairs; and to foster increased cooperation between the government and the private sector. \(^5\)

The first objective for the Assistant Secretary was to organize and build the Bureau so that it could begin to coordinate efforts of U.S. AID, USIA, the Peace Corps, and the private sector. In an effort to bring the activities of these agencies and organizations together, the

\(^3\)Coombs, Fourth Dimension, p. 39.

\(^4\)Ibid., p. 39.

\(^5\)Ibid., p. 2.
CU stressed the concept of "country planning." "Country planning" was to integrate the special needs and conditions of a given country to the resources of the various CU-directed operations. This afforded the USIA and AID cultural and educational experts the first opportunity to meet and discuss common problems and to explore ways to cooperate on a large-scale.

Cultural and educational concerns and the general interest in cooperation and unified actions were built into the original Alliance for Progress proposal, a plan for U.S. and Latin American cooperation, introduced by President Kennedy in 1961. In the Punta del Este agreements of August, 1961, educational development played a large role.

Additionally, in the next few years, three major lending institutions: U.S. AID, the Inter-American Bank, and the International Development Association, all reversed previous policies and began to allow educational improvement or expansion loans to be approved. This action too, reinforced the new attitude toward educational development. It also assisted individual programs and plans to obtain the needed money to initiate activities.

Lastly, an objective of the CU was to improve U.S. leadership and support of international organizations dealing with educational matters, and to encourage more cooperation between these international organizations. UNESCO, the Organization for Economic Cooperation and Development (OECD) and the Organization of American States (OAS) were the starting points for improving the U.S. government's work with international development. They received the first increases in U.S. support and interest.
In the 1960's the Fulbright-Hays Act absorbed the main elements of the Smith-Mundt Act and the Fulbright Amendment. This new Act had a basic objective: "to increase mutual understanding between the peoples of the United States and the peoples of other countries," and "to promote international cooperation for educational and cultural advancement; and thus to assist in the development of friendly, sympathetic, and peaceful relations between the United States and other countries of the world." 6

Coombs, the first Assistant Secretary of State for Educational and Cultural Affairs, feels that at least in the long-run, the Fulbright-Hays Act could contribute greatly to the effectiveness of U.S. foreign policy. However, he also observes that the bulk of activities of the government in this area is concentrated in five agencies: the State Department, U.S. AID, USIA, the Defense Department and the Peace Corps. They are the real instruments of foreign policy through education. The attempt to mold the international educational activities of these agencies into a cohesive structure for carrying out U.S. foreign policy is the job of the CU. It seems to be the central switchboard in the operations of these agencies in this area. The CU has the most inclusive charter and mission of all federal agencies in the field. It also has the most flexible, diversified and powerful tools with which to work. The vantage point it occupies serves to give it the best opportunity to guide and to observe federal monies and operations. Its efforts to coordinate various federal agencies couple with its work to harmonize these activities with international organizations such as UNESCO. The

6Coombs, Fourth Dimension, p. 51.
The CU's budget runs about fifty million dollars a year or more.

The U.S. Office of Education, the Department of Labor, and the bi-national "Fulbright Commission" as well as the private agencies such as the Conference Board of Associated Research Councils, the Governmental Affairs Institute, and the Institute of International Education all help the CU administer its programs, and encourage federal and international cooperation. The CU, along with the Bureau of International Organizations, also has the responsibility for developing U.S. policies and programs for UNESCO, the Organization of American States, and the Organization for Economic Cooperation and Development.

In sum, the latest development in the evolution of federal involvement in educational affairs for the less advanced nations is the powerful Bureau of Educational and Cultural Affairs headed by the Assistant Secretary of State for Educational and Cultural Affairs. Both the Bureau and the Assistant Secretary have much power and autonomy and have been directly responsible for much of the U.S. government's activities in the field of international development and education.

The CU and the first Assistant Secretary of State for Educational and Cultural Affairs, Philip Coombs seem to reflect a strong interest in developing an educational and cultural branch of U.S. foreign policy. In fact, in his book *The Fourth Dimension of Foreign Policy: Education and Cultural Affairs*, Coombs repeatedly makes the point that education, in particular, should be a basic function of our foreign policy planning operations. For example, he states:

"It is the thesis of this book that they (educational activities) not only have a great deal to do with it (foreign policy), but should take..."
their place as a significant new dimension of foreign policy, on a parity with the more traditional political, economic and military dimensions.\(^7\)

Coombs goes on to point out that, so far, education and cultural relations have not become the fully-realized functions of foreign policy that he recommends. However, they do, in reality, act as a part of our foreign policy without formal inclusion or definition. The federal government of the United States actually is engaged in planned and extensive programs of financial and technical aid to effect improvements or expansions in the educational systems of developing and developed nations.

The State Department

Educational activities initiated and funded by the U.S. State Department are extensive yet low-profile. It is difficult, if not impossible, to ascertain the extent of the overall operations and funding of such activities by the State Department. As Coombs has pointed out, government agencies tend to obscure their budgetary allocations in the developing countries.\(^8\) He noted:

Where the money comes from to support all these international activities of the domestic agencies, and how much is involved are often moot questions. The federal government has no 'international' budget, much less a budget for the educational and cultural part of foreign policy. Much of the costs are tucked away in individual agency budgets often under the most unlikely rubrics. Nor, in most cases, would one find explicit legislative authorization of the international activities of these agencies. The tide of international involvement has

\(^7\)Coombs, Fourth Dimension, p. 6.

\(^8\)Ibid., p. 64.
swept too fast to permit suitable legislative and budget arrangements. And, no doubt many agencies, anxious to maintain their international dimension, have not wished to raise the issue with Congress, lest they be told to discontinue their foreign activities.9

Coming from the former Assistant Secretary, this statement clearly demonstrates that it is next to impossible to find solid evidence on the extent or scope of the activities that an agency such as the State Department may be carrying on. This is not only true of the State Department, but fits the reporting pattern of USIA, U.S. AID, the Peace Corps, the Defense Department and other agencies as well.

Perhaps the only way to judge the involvement of the various organizations of the federal government in the educational projects of the developing countries is to study the reported projects in those countries. Thus, the activities of the State Department are most clearly seen as the specific educational technology projects are reported.

In addition to the specific programs supported by the State Department that show up in the project reports, major efforts also include the Fulbright exchange activities which have directly and indirectly assisted projects in the developing countries by supplying U.S. experts to the countries and training foreign students in the United States in education, media and related areas.

Another State Department project that is indicative of its approach to educational technology in the developing nations is the East-West Center in Hawaii which serves to train both foreign and U.S. personnel in communications and education. The Center, a special project

9Coombs, Fourth Dimension, p. 64.
of former President Johnson, receives some funds from the State Department. It places a special interest on training Asian educators in media-related operations.

Finally, the State Department has been most active in sending experts in the field of educational technology to the new nations and the less advanced ones to initiate and expand projects.

The United States Agency for International Development

As in the case of the State Department, specific information on the aggregate and particular appropriations to projects in the developing nations, is scant and often difficult to assess. For example, money given to a country for general educational development might well include later funding of technology projects. This is impossible to ascertain. Too, the budgetary information from U.S. AID and the legislation that provides the money are mostly too general to be of any help in determining the extent of U.S. AID activities in these countries. Money for specific projects is allocated and not spent, programs are discontinued, and some projects are never reported. All of these factors mean that reporting is poor and of little help to a study of government involvement.

U.S. AID became an active agency of the federal government during the Kennedy administration in the 1960's. Its first director, Fowler Hamilton is quoted as saying that AID, above all else, was in the business of education, with a small "e". To him, education with a big "E" meant formal schooling (which is also an interest of the agency). Education with the small "e" meant all kinds of useful learning, in and
out of school, including technical assistance.\textsuperscript{10}

Formal and informal education have been objects of U.S. AID's and its predecessors' interest and support. It is impossible to find the exact extent of the agency's interest and support. As Coombs notes:

AID's reporting system is better designed to serve the needs of congressional examiners, who want to know whether the money was honestly spent, than the needs of others who want to know what it was spent for, and unfortunately, no adequate record is available on how large a role education has played in the U.S. AID program.\textsuperscript{11}

However, it is known that in 1963, for example, for a period of years, U.S. AID appropriated an excess of 181 million dollars for educational projects\textsuperscript{12} (support of local institutions of higher education, teacher-training institutions, vocational schools and the like).

Discovering the impact these funds have had on educational technology is even more frustrating as allocations are seldom broken down into separate specific programs. However, it is likely that U.S. AID has been involved in many technology projects spending many millions of dollars on them. This is certainly obvious as the individual projects in the developing nations are analyzed; many involve U.S. AID support.

There is additional evidence to support the statement that U.S. AID has been heavily involved in technological approaches to education in the proposed Educational Television Technical Assistance Program of 1961. U.S. AID assumed the responsibility for this program after it faced initial opposition in Congress. The program had been charged with

\textsuperscript{10}\textit{Coombs, Fourth Dimension}, p. 61.

\textsuperscript{11}\textit{Ibid.}

\textsuperscript{12}\textit{Ibid.}
certain irregularities in contracts made by the government in preparation for the program. Thus, the program which had originally been suggested in 1961 as a part of the foreign aid bill for that year, became a part of U.S. AID in 1963 and played a major role in developing and assisting the educational television projects in Nigeria and Colombia.

In addition to the many specific cases of U.S. AID support of projects that are indicated in the nation-by-nation survey, it has been very active domestically in building a base for better cooperation between private and public organizations, on the one hand, and developing countries, on the other, in the field of educational technology. For example, U.S. AID contracts with U.S. universities for work in the less developed nations seem to have a two-fold result, it aids the foreign nation, and it creates an interest and body of experts in the American universities. Another way in which U.S. AID builds a domestic facility to assist developing nations is to fund extensive studies of the use of educational technology in these countries. This also seems to have a two-fold result; it initiates and supports American scholarship and understanding of the needs and the potentialities of these countries, and it provides evaluations and guidances for other less-advanced nations that wish to explore the possibilities of using technology for education.

These studies are often massive and well done. They are written by the qualified experts in the United States and abroad. Perhaps, the best example of this kind of study is the 1967 publication, *New Educational Media in Action: Case Studies for Planners*, which was undertaken by the International Institute for Educational Planning and UNESCO with U.S. AID funds. Its creators included Wilbur Schramm.
Jack Lyle, Philip Coombs and other noted U.S. and foreign experts. The work is very likely the definitive study until now of new educational media in education, especially in the less-developed lands.

In addition to the many studies, university contracts, and use of U.S. experts as staff, U.S. AID involves commercial and other governmental organizations in its foreign activities. It is not unusual for the agency to call on commercial television companies to assist in a developing country, or to contract with a private company to supply equipment consultants. Or, U.S. AID may utilize government organizations such as the Peace Corps to supply personnel or other kinds of assistance.

All in all, U.S. AID is a massive operation involving many kinds of educational and non-educational projects and programs in the developing and developed countries of the world. Additionally, it involves many American concerns from universities to private companies in its foreign operations.

Eventhough there is no evidence of the exact amount of assistance that U.S. AID supplies to the less-advanced lands for educational technology, the cases of specific support, that are indicated in the nation-by-nations survey, are many and the aid is often large.

U.S. AID plays a large role in the U.S. federal support of education in foreign lands; possibly the largest role of all government agencies.

The United States Peace Corps

Peace Corps volunteers have been supportive of many projects in the developing nations. Most frequently volunteers are asked to assist
programs that are already receiving U.S. assistance. These are typical of the kind of assistance that the Bureau for Educational and Cultural Affairs was trying to encourage. U.S. AID has often tied in the volunteers to projects such as the educational television operations in Thailand, Nigeria, the Philippines and elsewhere.

While Peace Corps activities in educational technology are often related to projects aided by U.S. AID, this is not always the case. There are instances were volunteers are assigned to programs or projects that are operated solely by a developing country without other kinds of U.S. involvement.

Peace Corps personnel have been assigned to specific projects such as the Colombia educational television service to provide technical and instructional assistance. Other times, volunteers have been given media work as a part of traditional teaching duties. A good example of this sort of assignment is to be found in the Philippines where volunteers have done extensive work in media that are used with conventional teaching.

The total impact of the Peace Corps is hard to estimate; however, it has been active in many projects in many countries. It has been particularly supportive of other U.S.-aided operations.

The U.S. Defense Department

U.S. Defense Department involvement in the educational technology activities of the developing countries is less direct than that found in U.S. AID, the State Department or the Peace Corps. However, the total impact of the Defense Department may be as important in the field
of education as any of the other agencies.

It goes about its program of education in the developing and developed countries in several ways. First, it contracts with U.S. and foreign universities and experts to study communications, education, propaganda, media effects and allied areas as a function of U.S. security and military preparedness. Second, it offers training in communications, media and related fields as well as in the combat arms to foreign nationals in the United States. Third, and most important, it offers a radio and television service to U.S. personnel abroad that invariably becomes a service used by the indigenous populations.

The broadcast network of the Defense Department is larger than that of USIA with its 200 radio and 38 television transmitters. The foreign audience of this network is larger than that of the Voice of America and is thought to outnumber the American audience abroad by twenty to one.\(^{13}\)

Defense Department broadcasting is effected through the Armed Forces Radio and Television Service (AFRTS) formerly called the Armed Forces Radio Service (AFRS). After the Second World War, AFRS began network radio broadcasting in Europe and the Far East under the regulation of the military forces of occupation. In the first cases, there was no effort to limit the scope of the operations of the network by the occupied nations. However, allied nations that later permitted AFRS and AFRTS broadcasting, and the occupied lands began to exercise some control over the extent and content of these operations under newly drawn status of forces agreements. Now it is usual to find that all countries, save, 

\(^{13}\)Combs, Fourth Dimension, p. 63.
perhaps, Viet Nam, exert some kinds of strict control over Defense Department broadcasting. In Viet Nam, the Defense Department operates two channels of television, one in English for American troops and one in Vietnamese for the local population.

Most of the programs are entertainment; but, some are definitely educational. This incidental kind of educational radio and television is certainly not designed as a part of U.S. educational activities in the host countries. In fact, there is much criticism of the programming of the stations as they do not always serve American interests abroad. Defense Department broadcasting falls under only the most vague sort of USIA and government control. There is little seeming effort to force the network to conform to preplanned U.S. foreign educational policy.

The total effect of this kind of quasi-educational activity may be greater than the conventional approaches employed by U.S. AID or the State Department. This question cannot be answered at this time; there is no practical way to estimate the educational impact of the networks programs.

The United States Information Agency

The USIA was established in 1953 as a government agency to coordinate earlier communications operations and to develop new ones.\textsuperscript{14} The Director of USIA is appointed by the President and approved by the Congress. President Nixon appointed Frank Shakespeare, the current

\textsuperscript{14}USIA's history and structure is outlined in Alan Well's \textit{Picture-tube Imperialism? The Impact of U.S. Television on Latin America}. His research in this area was most helpful for the discussion of USIA activities in education included in this Chapter.
director in 1969.

USIA's stated objective is explaining U.S. government policy and American life to people around the world. USIA has two basic roles in the area of foreign policy: to influence public attitudes in other nations toward the United States, and to serve as an advisory and information source to policy-making organizations in the government. The Agency cooperates with the State Department and other organizations to approve any media productions that effect foreign relations. USIA is the propaganda organ of the U.S. government although propaganda is often called "persuasion."15

The Agency maintains an extensive network of centers in foreign nations. These centers (some 130 of them) maintain libraries, distribute books to schools, universities and individuals, offer lectures on America, teach English, and exhibit American displays. The centers are the main means by which the USIS, the United States Information Service, as USIA is called abroad, provides media services to radio, television, press and news-services facilities in host countries.

It also publishes magazines and develops other kinds of printed and audiovisual materials. But, one of its biggest operations is Voice of America (VOA) broadcasting. The VOA has 102 transmitters, which broadcast almost 1000 hours of programs per week in 36 languages to over 40 million people.16


16 Ibid.
By 1959, a limited television service was added. In December of 1965, the television and film services of VOA had combined. Approximately 2,000 television stations in over 90 countries receive programs which the VOA Film and Television Services produces and buys. Special documentaries or series are the most common type of production. Examples of program topics are: Nixon; space-shots; the Alliance for Progress; and the U.S. position in Viet Nam.

Today, a large part of USIA efforts center on Viet Nam, either explaining it or operating JUSPAO, the Joint United States Public Affairs Office which is responsible for advising the Defense Department on matters of psychological warfare and information distribution. JUSPAO also works, along with U.S. AID, the Defense Department and the Vietnamese Ministry of Information, with the Vietnamese National Television Network. USIA also releases news to the various world media.

USIA has sponsored conferences on communications and trained overseas media personnel. Exchange programs for media training have often been carried out by the Agency with the joint efforts of the Defense Department. In 1967-1968, a program for bringing Latin American journalists to the United States, with the help of U.S. private radio and television companies, was initiated.

USIA is involved in educational affairs and is, perhaps, the most extensive and sophisticated user of educational technology in the developing countries. No doubt, the USIA is one of the main, if not the main educational service that the United States offers foreign nations. For example, one-fifth of its 1964 budget of 145.8 million dollars went
for books, libraries, and media programs. Further, USIA estimates that over half of its VOA broadcasts, television programs, films, and publications are essentially educational or cultural in content. English instruction by radio, television and other means is a large operation for the Agency. English teaching by television, for example, went to 37 countries in 1964.

While most of USIA's activities in education have been limited to its own facilities and renting or buying air time on foreign stations, it has also given technical and financial aid to the educational programs of some countries. In Guatemala, it assisted the educational television service in its operation without trying to distribute or promote Agency programming.

The U.S. Central Intelligence Agency

The Central Intelligence Agency (CIA) also operates a radio service not unlike USIA's VOA. Radio Free Europe was initiated by the CIA with Congressional backing in 1949. By 1955, RFE was broadcasting to Eastern Europe with 29 transmitters located in Germany and Portugal. The State Department offers policy guidance to the CIA operations of RFE.

By 1952, Radio Free Asia (RFA) was on the air, in the Far East, broadcasting programs to Asian nations from transmitters in Taiwan and the Philippines. Also funded by the CIA, its objectives were the same as those of RFE, i.e., to support U.S. foreign policy and to attack

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17Coombs, Fourth Dimension, p. 59.
Communism. It is no longer operating.

Radio Swan, later named Radio Americas was also a CIA operation. It had the primary mission of broadcasting into Cuba from lonely Swan Island in the Caribbean. It is alleged that this station had much to do with the Bay of Pigs invasion of Cuba.

While the educational value of these three CIA broadcasting operations is questionable, there must have been some broadly defined educational purpose. The CIA might have indicated something of the educational possibilities in such operations when it applied for government funds. The impact of CIA broadcasting is difficult to assess. Other clandestine projects of the Agency may be involved in similar media or education programs.

The U.S. National Aeronautics and Space Administration

The latest entrant into the field of international education from the United States is the National Aeronautics and Space Administration (NASA). Recently it has been most active in planning and proposing educational satellites for the developing and the developed nations of the world.

Originally, the United States Government established COMSAT, an organization that was to administer and operate satellite broadcasting. Later, COMSAT was expanded into INTELSAT, an international consortium of nations interested in satellite broadcasting and communications. Member nations were to provide money and policy decisions based on a pre-determined ratio according to the size, financial ability and other considerations of the various countries. However, by law, the United States was never to have less than 50.6 per cent of the voting
Committees from both COMSAT and INTELSAT have studied the prospects for broadcasting educational television from a satellite supplied at low cost from NASA. NASA itself has funded studies on the applicability of using satellites for educational television.

Additionally, the governments of India and Brazil, the two most interested developing countries, have made exhaustive studies. Private U.S. companies such as Westinghouse, General Electric, and Hughes Aircraft have added their proposals to the many that have been generated on the effectiveness of using a NASA satellite for education.

In addition to NASA studies, U.S. AID studies of satellites for educational use as well as several university studies have been released. NASA is supporting several proposals for using satellite systems for education in Brazil, India and other large and often poor countries. In the process of promoting increased satellite utilization, NASA has become a chief proponent of educational technology in the developing countries.

Summary

U.S. government activities in the area of development, education, and educational technology have been initiated and sustained by many government organizations: the State Department, U.S. AID, the Peace Corps, USIA, the Defense Department, the CIA, and NASA. These act-


19Communication Satellites for Education and Development--The Case of India, Volume II, by Wilbur Schramm and Lyle Nelson is a comprehensive study of the applicability of satellites to large-scale educational problems. This massive research project was funded by both U.S. AID and NASA.
Activities have been conventional and unconventional, well-funded and poorly funded, directly educative and indirectly propagandistic, as well as haphazard. The many organizations are only loosely connected by the Bureau for Educational and Cultural Affairs; and, it is impossible to assert that there has been a concerted U.S. effort to make education a well-defined function of foreign policy. However, the intent is there. The U.S. position that educational and cultural matters in the foreign nations should be a part of overall foreign policy has been emphatically stated by Coombs, the former Assistant Secretary of State for Educational and Cultural Affairs, and clearly demonstrated by the structures, objectives, and activities of the many government agencies involved in foreign affairs and education.

The question is simply whether the effects of the organizations have, in fact, been in the best interest of U.S. foreign policy. This is, so far, undetermined.
Critics of American foreign policy sometimes say that the greatest impact on education in other nations is brought about, not by the federal government, but, rather, by private U.S. institutions and individuals. This judgment, is not limited to education. Foreign policy that involves military, diplomatic or economic functions is also subject to this determination. However, the effect of private U.S. interests on the educational systems of the developing nations particularly has been an especially sensitive area.

Alan Wells, in his recent study *Picture-tube Imperialism? The Impact of U.S. Television on Latin America*, would certainly support this position. He claims that private commercial operations in the medium of television have a vise-like grip on educational as well as other types of broadcasting.

Further treatment of the activities of private commercial organizations in the area of education appears later in this chapter.

American support of educational projects in the developing countries takes many forms and is generated by various sectors of the society. Certainly, one of the largest and most important sectors that supports educational projects, especially technology-based ones, is that composed of philanthropic organizations.
The Ford Foundation

Dizard observes that "The dominant influence in these early overseas activities (in educational television) has been the Ford Foundation, the largest U.S. philanthropic trust."¹ Coombs also held, in 1964, that the Ford Foundation was a major U.S. supplier of money for education in the new nations and the less-developed ones. He states:

The fat boy in the philanthropic canoe—as Dean Rusk once dubbed the Ford Foundation—began paddling hard only in 1950, but soon became the world's largest private philanthropic force. By late 1961, out of total Ford grants of 1.5 billion, more than 20 per cent (446 million, to be exact) had gone to world affairs. But the largest share of Ford's "world affairs" money has gone into technical assistance and institution-building in some forty countries of Asia, Africa, and Latin America, with heavy emphasis on education.²

A major reason that the Ford Foundation was particularly interested in educational television resulted from its experiments in the 1950's with domestic television for education. Coming into the area of educational development in the 1950's, when television seemed to have great potential for education, the Ford Foundation was anxious to explore any new method of improving or expanding educational systems especially in the developing nations. The Ford Foundation, in the 1950's, made a strong commitment to assisting the less-well-off of the developing countries. Education was a prime target for modernizing these countries. This combination of interests in modernization, education, and television in the developing countries is responsible for the initial and costly

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²Coombs, Fourth Dimension, p. 70.
projects that the Ford Foundation began to develop and support.

One of the first and most extensive projects that the Ford Foundation suggested and funded in 1960 was the famous Delhi school television operation. This educational television project, which is discussed in detail later, met with only limited success and eventually was converted to an entertainment operation. This early experience with educational television in India may have dampened the Foundation's enthusiasm for assisting in the development and expansion of the medium for education world-wide. There are many other cases of Ford Foundation support of educational television and other kinds of media-centered projects, but few involved such a large commitment to a new technological undertaking. Kindred projects in Colombia and Samoa received only meager assistance from the Foundation; and, by 1969, the Foundation had ceased to fund many educational projects and even fewer media or technology-based ones. The Ford Foundation Annual Report of 1969 explains the de-emphasis on education:

A change in the strategy of Foundation aid, which has been in the making for several years, became more apparent in 1969—that is, a gradual shift in emphasis toward research on, and analysis of, basic problems confronting less-developed countries.³

By basic problems, the Foundation means population, agriculture and economics. All of these fields began to receive heavy funding in the late 1960's, mostly at the expense of education.

Even though the Ford Foundation has lately de-emphasized the educational development of the less-advanced nations, it still does

support many kinds of projects that assist or initiate educational improvements; it is only on a more limited scale. However, there are few new cases of the Foundation supporting television or similar kinds of innovative approaches to education.

Nevertheless, the contributions that the Foundation has made to various educational systems of developing countries have been significant. The number of cases of Foundation support of technology for education is quite large; and, the support in many instances has run into the millions of dollars. Not only have there been many cases of direct Foundation assistance; but, also, there have been numerous instances of indirect aid in the form of consultants sent to developing countries; studies, both in the United States and abroad; and personnel and equipment loans. Indirect aid is often neglected in an appraisal of the Foundation's activities as it is difficult to assess. However, such aid has been a large part of the Foundation's approach to solving the development problems of these countries and must be considered.

The Ford Foundation's efforts in the area of educational technology in the developing nations have been impressive; in many of the specific cases of U.S. support of educational technology, the Foundation figures prominently. Additionally, it has been very supportive of U.S. governmental activities in these countries and has assisted private commercial operations as well.4

There is no question that the Foundation has been the most important non-governmental agency involved in aiding the educational

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4Case studies in Chapters V, VI and VII include many references to specific Ford Foundation activity. Additionally, its total range of assistance provided is summarized in Chapter IX.
systems of the less-advanced nations.

The Carnegie Corporation

Like the Ford Foundation, the Carnegie Corporation of New York has stressed domestic interest in education. However, also like the Ford Foundation, it has expressed a concern for modernizing or improving the standard of living in developing countries.

Its entrance into the field has been late and quite meager. While it has funded studies on particular aspects of educational development that apply to the developing nations, it has not supplied money for projects to any extent that is significant. Perhaps, the only case of direct financial assistance to a project that employs technology, is to be found in Uganda. There the Foundation was instrumental in setting up and maintaining an audiovisual center that trains educators in the use of new devices.

There is no evidence to suggest that the Carnegie Corporation will increase its participation in such projects. Domestic concerns will, very likely, remain the major interest of the organization.

American Universities

The institutions of higher learning in the United States have been very active in the field of educational technology for the developing countries. Primarily, they have provided the practical and theoretical basis for project plans and operations. Universities and colleges all over the country have been called upon by the State Department, U.S. AID, the Defense Department, USIA, the Peace Corps, the Ford Foundation and other private and public organizations active in the field, to supply
personnel and materials for various projects.

Usually, the colleges or universities are signed to a contract with an agency to provide a specific one-time or continuing service to a project. Most often, this contract calls for personnel to be provided as consultants or managers of projects.

These institutions are also involved in effectiveness studies, evaluations, and planning activities. This is usually funded by specific grants for studies. The Ford Foundation and U.S. AID have been especially active in financing such studies.

Universities also play a major, indeed, inestimable, role in providing training for foreign educators in general educational fields as well as those that deal, in particular, with new technology.

However, the most important way in which the institutions of higher learning become involved with the educational development of the less-advanced nations is by providing the planners, theoreticians, and writers in the field. Most, if not all, of the people involved with educational projects in these countries come from, or are affiliated with, universities. Even most of the government officials concerned with the projects and support of educational development in general maintain close ties with Academe.

The United States has certainly been the leader in providing university-based experts in the field of educational technology in the developing countries. Additionally, most experts that are not specifically university-affiliated also come from the United States. However, it is clear that the universities play, perhaps the key role in determining how the United States supports education in foreign nations.
In sum, the universities have been quite instrumental in most, if not all, of the projects involving educational technology in the developing countries in one way or another. They have, with cooperation from various government and private organizations, shaped the overall involvement of the United States in all educational activities.

U.S. Experts in International Educational Technology

The plans, theories, and operations of educational technology projects, as developed by U.S. experts, apply not only to the various activities of this country; but also, and perhaps, more important, are the basis for models and guidelines for other countries' involvement. Both developed and developing nations employ much of the practical and theoretical data discovered or created by the United States. As the United States has been the leader in developing educational technology and the theory that accompanies its successful utilization, it has also been the leader in exporting that technology and theory to the nations of the world. This is particularly true in the case of the developing nations that lack the industries that create and support educational technology and the academic institutions that usually develop the methods that are employed with the new approach.

Perhaps the most significant way in which these experts in the field make their ideas known is through the books and articles they write. As most experts are associated with universities, they are also prolific writers. More than anything else, this is how they come to be considered experts. However, they also become known for actual work in the field or from consulting work.
A list of such U.S. experts would probably be headed by Wilbur Schramm. He has become possibly the best known and most consulted writer and theoretician in the field of educational technology for development of the less-advanced nations. His classic work in the field, Mass Media and National Development: The Role of Information in the Developing Countries, stands as the definitive text on new educational technology and development. He has been the author of several other important works that deal with the area such as the IIEP study, New Educational Media in Action: Case Studies for Planners, and its companion work, The New Media: Memo to Educational Planners. Both are the best references on specific cases of educational technology in the developing countries to be found. In addition to his many important books and articles, Schramm has been active in UNESCO and IIEP, and as the Director of the Institute for Communication Research at Stanford University. He was also instrumental in establishing the East-West Center which specializes in communications in the developing nations of Asia.

An associate of Schramm's and an expert in his own right is Friedrich Kahnert. He assisted in the writing of the IIEP studies and has been a staff member of the OECD (Organization for Economic Cooperation and Development) as well as consultant to UNESCO.

Jack Lyle also assisted in the preparation of the IIEP study and is on the staff of the University of California. He is also a noted contributor to the theory of educational technology for development.

Herbert Parnes, with the OECD, compiled several books on planning education and development which dealt with technology and other
aspects of educational development especially for the less-advanced European states. He is now at the Center for the Study of Human Resources at The Ohio State University.

Lucian Pye is one of the best known men in the field. He has written several important books on communication; perhaps, the most significant in terms of understanding the particular problems of the developing nations is *Communication and Development*, which he edited and supplied with a very useful article. The book was written with a Ford Foundation grant. This is one of several such studies the Foundation has funded. Pye is currently a professor at MIT.

Another professor at MIT, in the Center for International Studies, is Daniel Lerner. He, too, contributed an important article to Pye's collection. With Schramm, he edited a collection of essays on communications and development titled *Communication and Change in the Developing Countries*. He is, however, best known for his excellent and authoritative study, *The Passing of Traditional Society: Modernizing the Middle East*. He has been an important theoretician in the area of communication and social change.

Another significant figure in the field of communication and social change is Leonard Doob, a psychologist at Yale University. His *Communication in Africa: A Search for Boundaries* does not deal, to a great extent, with new media, but says much on the way in which less-developed societies respond to change and the way in which they communicate. This work is often cited in studies of education and communication in Africa and elsewhere.
Wilson Dizard has written a definitive work on television, educational and commercial, public and private in the world. His history devotes several chapters to discussions of the educational uses of television in the developed and developing nations. His experience as a U.S. AID officer, no doubt, have him special abilities to discuss the incidence of educational television in the less-advanced countries. He does this quite well. *Television: A World View* is a standard reference for students of educational television and television in general.

Hilton Power of the University of Wyoming has written a useful article on education and communications in Thailand where he was a UNESCO advisor. He represents a fine example of the typical way in which American scholars are used in the developing countries. He was sent to Thailand by UNESCO to assist the educational system of that country. He had a university background and went on to write something of his experience there. This is a common way for Americans to become experts in the field of educational technology and development. This approach combines university affiliation, international support from UNESCO, and publication of the experience.

Henry Cassirer, the former head of UNESCO's Mass Communication Department, is also an important writer and expert in the field of educational communications and development. His many articles on the subject range from adult education to motivation to national planning. He is an outspoken proponent of the wide-scale use of communication technology to upgrade and expand education.

I. Keith Tyler has written extensively on the use of radio and television for education in both the developed and developing countries.
He has served as consultant to foreign projects and been instrumental in establishing plans and procedures for the use of media in education in less-advanced nations.

Certainly, one of the most important experts that combines academic, government and writing experience is Philip H. Coombs, the former Assistant Secretary of State for Educational and Cultural Affairs, Director of the IIEP, and author of *The Fourth Dimension of Foreign Policy: Education and Cultural Affairs* and the widely read *The World Educational Crisis*. He was responsible for initially organizing the Bureau of Educational and Cultural Affairs, under President Kennedy, and building it into the clearinghouse and management facility that it is today. As director of the IIEP, he has much to do with educational activities of that organization and its parent organization UNESCO. His books on education and development have become major sources on educational planning, technology and systems building.

A man who was not ordinarily considered an educator or communications expert, in the usual sense of the word; but, one who had much to do with U.S. communications activities in foreign nations is Edward R. Murrow, a former director of USIA, and a renowned CBS broadcaster and news analyst. He had a profound impact on the philosophy and direction of USIA, and thus indirectly influenced U.S. involvement in foreign educational activities.

Finally, there are those communication experts whose research writings have had a great impact upon theory of development through technology. Men such as Harold Lasswell, Paul Lazarsfield, and Everett and Carl Rogers, have contributed much to the general knowledge of
communications, society, education and their inter-relationships.

In the area of general economic development, scholars such as W. W. Rostow and Max Millikan stand out.

U.S. experts are many and very influential in the field of educational communications and development. Even though American scholars lead the field, there are several prominent experts from other developed nations. René Maheu, the Director of UNESCO, has been an active supporter of education through technology as has another French writer and United Nations employee, Jean d'Arcy. The latter is primarily known for his interest in satellite education and his work with the Radio and Visual Services Division of the United Nations. René Dumont of the French Institute National Agronomique is also an important author of works on communication and development especially in West Africa. Henri Dieuzeide, of the Institut National Pedagogique, has become a foremost spokesman on the use of educational radio and television for development. He has written many articles and books on the topic.

A British expert in the field is John Vaizey who has written important works on education and its cost. His ideas and analysis procedures are well-known and respected.

Most experts in the field come from the developed nations; however, India has supplied two prominent writers and planners: P. V. Krishnamurty and Y. V. L. Rao. Rao is noted for his studies of communication and change in Indian villages. He has worked extensively with Daniel Lerner. Krishnamurty has written several articles, but is most important for his work with UNESCO, U.S. AID, and AIR (All India Radio). He has been active in the development of new educational
approaches through technology in India.

The indirect and direct contributions of the U.S. experts to the successful use of educational technology in the developing countries are large. Their direct effects are seen in the many cases of programs and projects in which they have been actively involved. Indirectly, they have established patterns of usage, theory and new ideas about the ways people can be educated.

U.S. Professional Organizations

U.S. experts come into the field of educational technology for development in another way. Through large professional organizations such as the National Education Association, the National Association of Educational Broadcasters, the International Council for the Educational Media, and the Association for Professional Broadcasting Education, U.S. and sometimes other foreign experts work on the problems of development education. The NAEB, in particular, has been very active in supplying U.S. experts to projects in the less-advanced lands. It has, for example, sent teams into Nigeria, Samoa, and the Sudan to ascertain if educational broadcasting would be effective and within the reach of these countries. These study teams often made judgments as to whether U.S. or foreign assistance might be needed, and if so, how much. In effect, they provided the first planning operation for many of these projects. Much of what they suggested went into the final plans for the projects. Additionally, the reports have served as guides for other survey teams exploring the usefulness of educational broadcasting.

The professional organizations also serve the field by distributing information on technology, education and development through
their widely-read journals such as: *Audiovisual Instructor*, *AV Communication Review*; *Educational Broadcasting Review* (EBR), formerly the *NAEB Journal; Audio Visual Media; Educational Technology; European Broadcasting Review; Educational Screen and Audio-Visual Guide; Convergence; Gazette*; and the *Journal of Broadcasting*. These organizations and publications are international in membership and structure; but, some reflect a heavy U.S. interest.

**U. S. Church Activities**

Churches in the United States have always supported education in many of the developing nations. There is a long history of direct missionary schooling in countries too numerous to list. Both Catholic and Protestant churches have initiated and assisted schooling, some of which had little to do with formal religious training. Often their projects involved technology.

Catholic churches have established an organization to promote education by broadcasting. The *International Catholic Association for Radio and Television* works closely with other international organizations such as UNESCO, the European Broadcasting Union, and the Asian Broadcasting Union to bring about improved and expanded education through broadcasting. UNDA, Latin for "wave", as the Catholic organization is called, is active in radio and television programs in many developing countries. Literacy and vocational education are top on the list of priorities it attempts to build into its broadcasting efforts.

The Protestant counterpart to UNDA seems to be the operation of SODEPAX, the *Commission for Society, Development and Peace*, a unit
of the World Council of Churches. It, too, supports and initiates educational technology in the developing countries as do many individual Protestant denominations.

American churches belong to both international organizations and provide personnel, money and leadership for them.

**U.S. Commercial Activities**

It may well be that American commercial interests, the large television corporations, the broadcasting equipment manufacturers, and other categories of private business, have the most significant impact on the educational projects and systems of the developing countries. Certainly, the three major television networks and their allied enterprises play a large role in the indirect education, by television, of millions of people abroad. They also assume an active role in direct education by supporting or initiating conventional educational or instructional programming.

Alan Wells' comprehensive study of the impact of U.S. commercial television on Latin America has documented the massive role that the three American television corporations--ABC, NBC and CBS--play in the media operations of South America.5

He points out that in Latin America, ABC-Paramount through its "Worldvision" network owns or controls a significant number of television stations in many countries of the region. By 1968, for example, it operated in sixteen Latin American countries and in eleven foreign countries in other parts of the world. The programming and advertising operations

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5Wells, *Picture-tube*, pp. 102-06.
of "Worldvision" are also the largest in the region, and one of the largest in the world. ABC-Paramount owns 51 per cent of CATVN (Cadena Centro-Americana) the Central American Television Network, and owns LATINO, the Latin American Television International Network Organization.

NBC-TV has also been active in television operations in South America and other developing regions. In Nigeria, it assisted in the three regional educational television projects, in Lagos, Western and Northern Nigeria, mostly providing technical and managerial help. RCA was primarily involved in carrying out the operations in that country. NBC has been helpful in establishing new stations in over a dozen countries that can be called developing. It also holds stock in television companies in eight countries. Sales of programs are also a prime interest of NBC in all foreign countries, especially the less-advanced ones. (The latter nations often have little capacity for producing their own programs, and thus provide a large market for U.S. program sales.)

CBS has assisted a commercial television station in West Germany and has partnership arrangements with several Latin American countries' television production companies. It has stock in companies in Argentina, Venezuela, Peru, Trinidad and Tobago; and, is active in cable television in Canada, Japan, Belgium, Australia, Mexico, and Argentina. It has also aided Israel in establishing television services.

Wells notes that ABC, which has the smallest share of the U.S. domestic market in television, has the largest share of the foreign

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6Wells, Picture-tube, p. 103.
business. He believes that it was ABC's weak position in the United States that forced it to turn to the foreign markets.\(^7\)

There are many other cases of the three U.S. television corporations' activities in foreign broadcasting as well as numerous instances of lesser American companies involved in foreign television. American investments and ownership in the television operations of the developing countries are significant. So, too, is the influence these U.S. interests maintain with the foreign operations.

These American interests support various educational projects in several ways. First, some of the programming that the foreign-U.S. stations put on the air must be considered educational. This indirect effect on the education of the various countries is impossible to assess. Second, the jointly owned stations often assist in the establishment and continuation of directly educational projects. For example, in Chile, Guatemala, El Salvador, Panama, Ecuador, and other developing countries, where there are extensive U.S. involvements in television and educational television projects, the United States plays some part in supporting education.

These formal relationships between U.S. commercial interests and foreign commercial and educational television are not the only ways in which private American influence in education through this medium is felt. Films and videotapes of American origin are shown on many stations in the developing nations. This, no doubt, has some educational impact. Other kinds of U.S. materials such as slides, audio-recordings,\(^7\)

\(^{7}\)Wells, *Picture-tube*, p. 104.
programed instruction texts and similar educational devices have been flowing to these countries as a result of U.S. private export activities.

Additionally, advertising and related business media activities in the developing nations might be generally included in the discussion of the educational impact of the United States.

American corporations in many countries carry on extensive training programs for their foreign employees. Often, these programs make use of media and other kinds of sophisticated teaching devices. Anaconda Copper trains workers with films and other kinds of audio-visual materials that are elements of the new educational technology.

Speaking on the impact of U.S. private interests on the education of the peoples in developing nations, Coombs stated:

On a far broader scale, however, private agencies and individuals independently pursue educational and cultural activities which shape foreign relations and impinge, often quite unintentionally, on foreign policy. The vast sprawl of private endeavors cannot be readily measured; but, clearly it exceeds the total of direct official programs.®

U.S. private involvement in the educational systems of developing countries through technology and conventional methods is massive. However, as Coombs points out it is impossible to measure this involvement either qualitatively or quantitatively. In a study of U.S. activities in education abroad, it will always appear that the government is taking the greater role. This is, of course, because it is easier to determine and assess. The government agencies, in spite of poor reporting procedures, still provide more information on their operations than

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®Coombs, Fourth Dimension, p. 64.
private organizations or individuals. The fact that there are fewer agencies in the government involved in these activities, and the fact that each has defined mandates for carrying on such activities make the problem of identifying the operations and impact somewhat less troublesome.

It is unfortunate that private support of projects using educational technology must appear small compared to government assistance; this comparison is not valid. A better method of appraising the involvement of private interests must be developed. Until it is, a clear indication of the role of the private sector is not possible.
CHAPTER IV

UNITED STATES ASSISTANCE TO EDUCATIONAL TECHNOLOGY
IN THE LESS-ADVANCED NATIONS THROUGH
INTERNATIONAL ORGANIZATIONS

Both private and governmental money and personnel are involved in the support of several international organizations which are active in the field of international educational technology. Contrary to popular belief, however, these organizations in expenditures and scale of operations do not compare with U.S. government or American private participation. Surprisingly, the budgets of these organizations are quite small.

UNESCO

The front-runner in the organizations giving support to educational technology in the developing nations is the United Nations Educational Scientific and Cultural Organization--UNESCO. This agency of the United Nations has become one of the most important elements in educational programs of numerous developed and developing lands. In the last twenty years, it has emerged as the foremost authority in the field of educational development. Its programs, experts and many publications are well-known and respected throughout the world. Coombs points out that:

UNESCO has two particularly strategic assets: the expertise and international leadership position it
has developed, especially in educational planning and development, and the great confidence it enjoys among the emerging nations.1 UNESCO has increasingly supplied experts to assist the projects of the emerging nations and has created a large and important body of knowledge on education for development.

It has been involved in many projects involving educational technology from El Salvador to Thailand to Malawi; in dozens of countries in even more projects, UNESCO has been active. A list of UNESCO supported projects would contain dozens of examples.

UNESCO, on the surface, would appear to be well-funded to be able to carry on such extensive programs. Actually, the contrary is true. UNESCO operates on a budget of about 20 million dollars a year; this is one-third the size of the U.S. State Department's Bureau of Educational and Cultural Affairs budget and one-sixth that of USIA, not to mention the budgets of U.S. AID, the Peace Corps, the Ford Foundation and the other U.S. organizations that provide similar services.

The U.N. agency is able to be involved, to the extent that it is, by utilizing low-cost-type assistance. This usually takes the form of sending experts, distributing inexpensive publications and arranging training for foreign educational personnel. Even though its approach has been low-cost, its effects have been significant.

The United States has been a major supporter of UNESCO from its inception. Currently, the Federal Government's yearly contribution to the organization is in excess of 6 million dollars, or about one-

1Coombs, *Fourth Dimension*, p. 74.
third of its total budget. In addition to paying for a large part of UNESCO's operation, and thus, indirectly, a large part of the expenses of the projects that it, in turn, supports, the United States provides many of the experts that manage its global operation.

A large number of the UNESCO experts sent to developing nations are from the United States. Most American experts in the field of educational communications and development have engaged in enterprises for UNESCO at one time or another.

All this is not to imply that UNESCO is an American operation for it is not. Many developed and developing nations supplied money and personnel for its operation. Many of its ideas and programs have been suggested and carried out by people from other countries. However, the American presence is undeniable and important.

In addition to supporting educational technology through UNESCO, U.S. assistance is also noted in the various agencies that UNESCO helps. Specifically, UNESCO, through policy guidelines and financial contributions, assists its subsidiary departments: the International Film and Television Council; the International Council for Educational Films; and the Department of Mass Communication to mention several.

UNESCO aids educational projects through other allied organizations as well. The International Institute for Educational Planning (IIEP), established by UNESCO, with the help of the World Bank, the Ford Foundation and the French Government, has become one of the most important planning organizations for educational development, if not the most important, in the world. The IIEP which was started in Paris
in 1963 has also received funds and other kinds of aid from other private and governmental agencies, U.S. and foreign.

The Institute has as its main objectives: (1) expanding knowledge and (2) providing experts in educational planning to assist all nations in their educational, and thus economic and social development. It cooperates with many other agencies throughout the world to carry out these responsibilities.

It has been especially successful in collecting, creating and disseminating new knowledge in education through publications, research reports and instructional materials. This attempt to bring theory into practice in education has involved spreading new ideas on technology as well as suggesting more conventional methods to both the developed and developing nations. Its publications and research reports are particularly well known.

The IIEP was responsible, in the main, for the two important projects, New Educational Media in Action: Case Studies for Planners, and The New Media: Memo to Educational Planners. Perhaps this collective effort to present these comprehensive studies is an outstanding example of the sort of international cooperation that characterizes some of the work in the field of educational development. UNESCO, IIEP, U.S. AID and many U.S. and foreign experts were active in the preparation of the work.

IIEP is separate from the structure of UNESCO and operates autonomously. However, the mutual support and cooperation between the two organizations forces a joint consideration of their activities. IIEP is staffed with many American experts. Philip H. Coombs has been a
very energetic director of the Institute.

UNESCO has actively supported various agencies that work in the field of educational technology for development and has cooperated with even more.

The Organization for Economic Cooperation and Development

The OECD, Organization for Economic Cooperation and Development, is one of the agencies with which UNESCO works very closely. The OECD, for the most part, has been involved in educational planning with education experts from Europe, North America and Japan. In the post-war years, some of its member states were in the developing stage. Now its activity in Third World countries is limited to small amounts of technical assistance and the preparation of research reports and publications. Indirectly, it was spurred interest in educational planning and development in both the advanced and advancing nations. Its Center for Educational Research and Innovation has been productive in bringing information and plans for educational development to the developing nations.

OECD was an early leader in the application of media to education. Through its Bureau of Scientific and Technical Personnel, the use of television and other media for educational purposes was studied. Like the IIEP it has built successful educational models for use in many developing countries.

Along with the OECD, the Council of Europe, with which it works, has pushed for more extensive use of television and other new technological devices in the less-developed parts of Europe.
The European and Asian Broadcasting Unions

The European Broadcasting Union, EBU is primarily a European international membership association of broadcasting organizations with the transmission and utilization of television and radio within the European Community. However, it has become involved with educational broadcasting and has created ties, through associate memberships, with broadcasting organizations in over twenty Asian, African and Latin American countries.\(^2\) Additionally, the EBU has sponsored several important international conferences on school broadcasting in Rome in 1961, in Tokyo in 1964, and in Paris in 1967.

The EBU was founded in 1950, although its parent organization, the International Broadcasting Union or UIR had been in existence since 1924. The UIR has now ended. In 1946, the Soviet Union broke off from the UIR to form the International Radio and Television Organization—OIRT. OIRT serves much the same functions for the Eastern European nations as the EBU does for the rest of Europe.

In addition to holding important conferences on school broadcasting for developing and developed nations, the EBU has been most active in publishing and distributing information on education, broadcasting and development mainly through its journal the European Broadcasting Review.

It has also been instrumental in arranging training activities for educational broadcasters from the developing nations in Europe. The United States is an associate member of the organization.

The Asian Broadcasting Union or ABU followed the pattern established by the EBU and the Union of National Radio and Television of Africa--URTNA. ABU began in 1964 at the Japan EBU Conference. Its membership extends from countries east of the Mediterranean to the middle of the Pacific Ocean. There are many developing countries in its ranks. It is a much broader mixture of diverse nations than the EBU. It is composed of very rich and very poor nations. Japan and Australia have educational broadcasting budgets in the millions of dollars while Samoa and Nepal usually spend less than $100,000.00 per year.

Prior to the establishment of the ABU, NHK, Nippon Hoso Kyokai, the Japanese National Broadcasting Network, had sponsored several Asian conferences on educational broadcasting. These conferences eventually led to the formation of the Union in Seoul, Korea in 1964. To date, the Union has maintained limitations on memberships thereby excluding the Peoples' Republic of China, Israel, EBU, OIRT and URTNA broadcasting organizations.

The ABU's budget is maintained by small membership dues and a Ford Foundation grant. However, in spite of its small financial base, the Union has been active in regulating Asian television and radio affairs and in assisting educational projects in various countries. It serves as a clearinghouse for information on television, radio and educational uses of both media. It has provided experts to aid educational projects as well as small financial grants to new ventures. In addition to providing continued support for the operations of the Union, the Ford Foundation grant has much to do with the agreement to form the Union.
The Many Other International Organizations which the United States Assists

The list of international organizations that are involved with education that the United States Government helps directly with financial grants is large. Many of these organizations do not employ technology in their educational programs. Most, probably, do not. However, it is important to note the large number of agencies that the government assists and that the possibilities for indirect support of educational technology exists.

UNITED NATIONS AND SPECIALIZED AGENCIES:

United Nations, proper, including UNTAO
UN Children's Fund, UNICEF
UNexpanded Program of Technical Assistance, UNTA
UN Relief and Works Agency, UNRWA
UN Special Fund
Food and Agriculture Organization, FAO
Intergovernmental Maritime Consultative Organization, IMCO
International Civil Aviation Organization, ICAO
International Labor Organization, ILO
International Telecommunications Union, ITU
UN Educational, Scientific, and Cultural Organization, UNESCO
Universal Postal Union, UPU
World Health Organization, WHO
World Meteorological Organization, WMO

INTER-AMERICAN ORGANIZATIONS:

Organization of American States, OAS
Pan American Union
OAS Program of Technical Cooperation
Inter-American Children's Institute
Inter-American Development Bank, IADB
Inter-American Indian Institute
Inter-American Institute of Agricultural Sciences
Pan American Health Organization, PAHO of WHO
Pan American Institute of Geography and History, PAIGH
OTHER REGIONAL ORGANIZATIONS:

North Atlantic Treaty Organization, NATO
Asian Productivity Organization, APO
Colombo Plan Council for Technical Assistance in South and Southeast Asia
Commission for Technical Cooperation in Africa, CCTA
Organization for Economic Cooperation and Development, OECD
South Pacific Commission
Southeast Asia Treaty Organization, SEATO

OTHER INTERNATIONAL ORGANIZATIONS:

International Atomic Energy Agency, IAEA
International Union for the Protection of Industrial Property
International Bureau of Education
International Bureau of Weights and Measures
International Council of Scientific Unions
International Hydrographic Bureau
International Bank for Reconstruction and Development, IBRD
International Development Association, IDA
International Monetary Fund

One other international organization that receives large U.S. support and is quite active in funding educational projects, including recently, ones involving technology, is the World Bank. Late in the 1960's, it began to consider loans to educational projects as part of overall development and consequently began to approve certain educational loans to the developing countries. The Ivory Coast educational television expansion was one of the first projects to receive a large World Bank loan for massive educational development.

U.S. support of educational technology in the developing countries through international organizations is difficult, if not impossible, to assess. Nonetheless, it is possible to state, with some certainty, that the United States Government and private institutions and individuals are involved with and support educational technology

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3Coombs, Fourth Dimension, p. 150.
through international organizations to a greater extent than any other nation. Further, the channels exist for increased support and probably will be used to promote educational development through technology.
CHAPTER V

PROJECTS IN AFRICA AND THE MIDDLE EAST

Africa embraces the largest number of developing countries of any continent. In the last twenty years, the number of nations to become independent and thus to be included among the developing countries has been great. This emergence of more than two dozen new nations has not been matched anywhere in the world at any time in history. It follows, therefore, that these developing countries are of varying sizes and in all stages of economic, social, political and military development. It also becomes apparent that Africa is the site of many and varied activities designed to move along development by educational improvements. All countries that are involved in aid to education in developing nations have, at one time or another, assisted a project in Africa. The United States has probably been more active here than in any other region of the world. There are many and diverse cases of U.S. aid to the educational technologies of the countries of Africa.

The Middle East has also received considerable U.S. educational assistance. Although this may be less in numbers of projects, it may be larger in terms of actual dollars expended.

**Ethiopian Educational Television**

Educational television began in Ethiopia in 1965. The
Ethiopian Schools Television Service transmitted school programs from the City Hall of Addis Ababa from 1965 to 1969. Program production was carried out with the joint efforts of the Ministry of Education and the Ministry of Information. However, by 1969, the demands for educational television programs became so great that the Ministry of Education requested and received their own broadcasting facilities.

A mass media center was planned and established with the help of the United Kingdom's Ministry of Overseas Development, The Center for Educational Television Overseas (CETO). The building, which had housed a teacher training college, was converted into studios for educational radio and television as well as related audiovisual materials production. Located in Addis Ababa, this center remains the hub of educational broadcasting production for the entire country.

The mass media center is designed to do work in literacy and adult education as well as to produce the in-school broadcast programs. It was hoped that the service would reach a large number of rural, non-literate people in the back country of Ethiopia. Cheap radios or audio cassettes could make the educational broadcasting service one of the main elements in the nation's educational system. In the 1970's, educational broadcasting was expected to move the country in the direction of some of the more advanced educational systems in Africa.

Initial aid for the educational broadcasting service came from several external sources. UNESCO provided technical assistance as did the West German government. U.S. AID supplied video-tape recorders and the original national radio transmitter. In addition to the transmitter, the United States arranged for technical training for the station
personnel through a contract with Radio-TV International, Inc. American Peace Corps volunteers assisted in the production and presentation of educational programs.

Ethiopia has been a long-time friend of the United States and is a well-established sovereign nation. However, it lacked essential broadcasting equipment and facilities until the United States financed their acquisition in the 1960's.

Educational broadcasting, for the most part, has consisted of direct instructional programs with, by 1972, little emphasis on general development education aimed at the rural and urban poor. However, health, agriculture, and literacy will be topics of general broadcast in the 1970's.

Educational Television in Iran

A series of direct-teaching science programs was sponsored by the Iranian Ministry of Education in the summer of 1960. This initial series inaugurated educational television in the Middle East. It was broadcast on a Tehran commercial station.

The programs were designed as a "summer school" session for students who had failed their regular classroom science course during the previous school year. Of the students who followed the television course, 72 per cent successfully passed their "make-up" examination at the end of the summer.¹

American technical assistance was provided in the form of experts who had worked with the Ministry of Education in expanding and

¹Dizard, Television: A World View, p. 236.
enriching the educational programs on many stations throughout the country.

**Educational Television in Ivory Coast**

Educational television in Ivory Coast began as an experiment in worker education.² It was initiated in 1963 as a training program to up-grade job skills and ease the shortage of trained manpower in Abidjan. Initially, it was broadcast by means of a closed circuit television hook-up; later it went on the air to many towns and villages beyond the capital. Rural study groups utilized the service as did individual viewers.

By 1964, the project became fully nationwide as the national television network began to transmit the programs in French. French was selected as the language of broadcast as there is a large variety of native tongues. At the local level, study groups were organized by employers, the Chamber of Commerce or the Ministry of Education, Youth and Sport.

Almost all study groups were set up either by industrial companies or by the Chamber of Commerce. Each group paid 6,000 CFA francs per student.

Cost studies demonstrated that with as few as 200 study groups, television instruction became more economical than other media. This study seems to be based on operating costs alone. But, if a broadcast-

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²The extensive case studies of IIEP's New Educational Media in Action: Case studies for Planners, provided factual material for the summaries of the educational projects in Ivory Coast, Nigeria, Niger, Colombia, Honduras, and Samoa.
ing network already exists, operating costs alone might be useful for determining if television should be used.

The initial plan of the operation was to create a pool of 1000 literate workers; and, this immediate goal was readily achieved. By the late 1960's, the service was extended into the rural and back areas of the country and had become a permanent and significant feature of the schooling system of the Ivory Coast.

In 1970, a project to begin "development" education in the form of technical, vocational, and agricultural training was started. In conjunction with this, direct instructional television was initiated for teacher training and general secondary school instruction.

The objectives of this ambitious project were varied and included the construction of five institutions to train skilled workers, lower and upper level technicians, and engineers and business administrators, the development of three teacher training schools with an allied ITV production center, and three pilot secondary schools with curriculum studies.

All of these specific goals tied in with the television service and they were designed to complement and support one another.

Eleven project schools within the national plan would be capable of enrolling more than 6000 students. The cost of the expansive project was to be financed, in the main, by a loan from the World Bank. World Bank funds had been supplied to Tunisia for a similar plan with much success. The loan for 9,700,000 dollars to Ivory Coast is one of the largest of its kind to have been extended to a developing African nation for educational improvements.
The loan was expected to cover the television costs of the project including an ITV production center, necessary transmission equipment, maintenance costs, and receiving sets.

While the greatest share of the project was to be funded by the World Bank, UNESCO and U.S. AID have been providing financial and technical assistance.

The total extent of U.S. support to Ivory Coast in this project is not known. Initial results of the Ivory Coast television education programs appear to have been successful. Certainly, in the area of worker education the results have been noteworthy. This can be seen from the number of skilled workers reported to have been trained and from the willingness of the World Bank to support a much larger operation. In the past, the World Bank has been quite selective in supplying loans especially for purely educational and not immediately productive ventures.

The immediate and significant results of the educational television service in Ivory Coast stemmed from small but well designed beginnings. Early positive results led to a massive national plan for educational television.

**Primary School Teacher Educational Broadcasting in Kenya**

Radio programs are specially produced for primary school teachers of Kenya by the School Broadcast Division of the Voice of Kenya, the Kenya Institute of Education and a Canadian staff.

These programs are designed to bring to the primary school teachers of Kenya modern teaching methods. Programs for teachers of the
lower primary, and four series on the teaching of reading, are aired during the school holidays in December, April and August. Often the broadcasts carry recordings of a demonstration lesson. Notes for tutors on how to make the most of a lesson by carrying on discussion in advance and following the presentations, are given to cooperating teachers.

Between the vacations, the radio service presents courses on child study with written assignments. Vacation courses are integrated into daily course work as are the continuing radio broadcasts by correspondence assignments.

Experience to date, seems to indicate that two or three week courses twice a year are more efficient than the present schedule. There might even be academic courses in which the more ambitious unqualified teachers could prepare for the Kenya Junior School Certificate.

In spite of some criticism of the project by Kenyan educational researchers, it does seem to be upgrading the qualifications of the primary school teachers to some extent.³

The course offerings during the school year cover the following subjects: English, Kiswahili, geography, mathematics, and history—all given Monday through Friday from 5:00 to 5:30 P.M. Each term is divided into twelve lessons; there are three terms a year. The student is expected to spend about five or six hours on each lesson.

At present, there are over 1000 students taking the radio correspondence courses and the enrollment is expected to increase. At the start, the Ministry of Education asked the service to concentrate on the 12,000 primary third-grade teachers; now it is open to all primary school teachers and being used extensively.

There is now the hope that this type of correspondence education can be opened up to anybody who desires continuing education. Even now, there is an effort to develop a full four year curriculum leading to the East Africa Certificate. It has potential for "development" education as well as formal schooling.

The project is funded by an annual grant from the Kenya government. Additional funds have been provided by U.S. AID and arrangements have been made so that it will continue to support the correspondence unit for the first four years.

In addition to U.S. AID funds, this project has been assisted financially by the Ford Foundation. While the Ford Foundation has not funded many similar projects in Africa or elsewhere, it has been active in more conventional teacher training activities.

When the government of Kenya applied and received U.S. AID funds they also obtained the help of staff members from the University of Wisconsin. U.S. AID secured the assistance from the University of Wisconsin by means of the usual U.S. AID/university contract.

In addition to governmental and foreign assistance, there is support from a minimal student fee, for which students receive textbooks, writing materials, and envelopes. The lessons are posted free of charge. The success of the Kenya radio correspondence school has led to
the expanded secondary teacher education program and hopes for a nationwide radio correspondence school. The United States seems very much interested in supporting this type of mediated teaching experience.

**Lebanon Educational Television**

The Ford Foundation, assisting the Beirut École des Arts et Métiers, attempted to set up an educational television station in Lebanon in 1956. This Ford Foundation grant was one of the first of any sort in the Middle East and one of the first to an educational television venture outside the United States. The project ended when the nation turned the Ford Foundation equipment and facilities into a commercial television station.

**Malawi Radio Correspondence Education**

Malawi's correspondence college began in 1965. New Zealand and Australia helped the Malawi Ministry of Education initiate the scheme; and, they provided money for equipment and operating expenses as well as supporting a staff to assist the venture. UNESCO, the Gulbenkian Foundation and the U.S. Peace Corps also offered aid.

Some of the courses were written in Malawi, but most of them were adapted from courses placed at the disposal of Malawi by the Central African Correspondence College.

The Malawi Correspondence College staff is comprised of 30 persons, six of whom are editors for the various courses. Thirty part-time tutors are employed. A 45-minute radio program five days a week during the school term is a primary element in the teaching procedure. Broadcasts reach the 2600 students enrolled in the courses.
A postal library has also been initiated to complement the service's regular activities. The Ministry of education has placed all evening schools in Malawi under the control of the Correspondence College. It has become the center for adult education in the country.

Learning by correspondence and radio has become one of the leading educational activities in the country as well as in Central Africa. One interesting result of the work of the College in language training has been the introduction of the first written material on grammar for the population of Malawi.

Courses for the Primary Leaving Certificate, Junior Certificate, General Certificate of Education, and City and Guilds Intermediate Examination are offered by the College.

General education courses such as mathematics, geography, science, health, bookkeeping, English, economics, and history are offered for certification. Vocational courses including motor mechanics, brickworking, and carpentry are also part of the curriculum although they deal only with theory.

Radio programs are broadcast daily Mondays to Fridays during the week from 4:15 to 5:00 P.M. Repeat broadcasts of some lessons are on the air every Thursday at 8:15 P.M.

Broadcasts are intended to complement the correspondence lessons although they are relatively independent of each other. Students can miss programs without falling behind in their correspondence. It is also possible, on the other hand, for other than those enrolled in the courses to gain from the radio.

Some difficulties have been encountered in the operations of
the Correspondence College. Texts are limited. There are very poor library facilities. English, which is the main language of reference readings, is not always well known. A library service is now in operation under the control of a U.S. Peace Corps volunteer. It is hoped that this will eventually overcome the shortage of reference and reading materials.

The College is not yet self-supporting; student's fees cover a large part of the operation of the service, but not all the costs. Outside help is vital. Australia and New Zealand have been most helpful. The United States has helped by assigning Peace Corps people for various jobs in the preparation and presentation of lessons as well as for the operation of the library. Too, the U.S. supplied the original radio broadcasting equipment to the Malawi national broadcasting network.

The correspondence work of the College has shown itself to be economical and effective in terms of the large number of students who have completed the various certificates. Success in this type of educational project is dependent on several factors, all of which were evident in Malawi: a population concentration; a developed communication system including postal and radio services; and foreign assistance. The United States was directly responsible for creating two of these favorable factors. The Malawi experience with correspondence education is similar to that of Ethiopia; i.e., they both have been successful and could serve as examples of the effective application of educational radio. Lars-Olof Edstroem, writing for the Dag Hammarskjold Foundation, has been an agent in the publication and distribution of information on
these worthwhile media projects.  

Malawi Educational Radio and Film

Four American media experts and U.S. engineers were sent to Malawi in 1963 on a U.S. AID-University of Missouri contract to help develop a radio and film service for educational purposes. Initial plans called for the creation of an information facility to improve agricultural practices. This application of 'development' educational technology was also to point out to neighboring countries that a large-scale educational media program could greatly benefit a developing country.

The radio and film service expanded to become a rather complete educational system. The Malawi Broadcasting Corporation added an education department to cooperate with any national ministry in using radio for education. NBC worked initially with the Ministries of Natural Resources, Education and Public Health in providing early development programs.

An NAEB journal article notes that the aim of the service is really general education: Another purpose is education in the broad sense of the word. This includes education for national development in such fields as: agricultural extension, rural development, public health, literacy, adult and formal education.

In the field of education for national development, there are a number of specific target audiences such as agricultural extension workers, school children,

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correspondence school students and school teachers.\(^5\)

Fourteen per cent of all the broadcasts on MBC are educational in content. Thus, Malawi has used radio for education to a much greater extent, as a percentage of total air time, than most African nations, or developing nations in general.

Films, which are also a part of the educational development program, are shown in the countryside by eight mobile vans. They are programmed with 99 educational films produced at low cost. The Cinema Production unit, which produced the films, is now free of foreign assistance. A U.S. AID staff had originally helped the unit create the films. Thirty sound and color films have been produced by the four member Malawi staff.\(^6\)

The radio service of MBC is a well-established educational radio service broadcasting to some 400 radio farm forums in the rural areas of the country. The forums were organized by U.S. Peace Corps volunteers.

U.S. support of this best example of "development" educational radio in Malawi has been varied and extensive. Initially, the United States supplied the radio transmitters and station equipment. This was in the 1960's. Later U.S. AID and the University of Missouri sent technical and educational personnel to assist the staff members of the educational film and radio services. Funds were also given by U.S. AID.

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Finally, U.S. Peace Corps volunteers were used extensively in the production of materials and in organizing local listening groups.

Much of the success of the project is directly attributed to U.S. direction and money. While there is no evidence that the project has completely met the objective of a general education for national development, it seems to have had some success.

**Niger Radiovision**

Gaston-Louis Solères, a French expert in the teaching of French to adults, began the campaign for radiovision, the use of pictures or slides with radio broadcasts, in Niger. His methods utilize numerous illustrations, originally developed for printed materials, but adaptable to film-strips. The Solères method was initiated in 1961.

Ten villages in one area (Maradi) were selected for the first experiment. Teaching French with the Solères system was practiced at three weekly meetings. During the first two sessions, film strips were projected by the local instructor. At the third meeting, the film strips were again presented, only this time with simultaneous radio broadcasts.

In 1963, this method was extended to almost 100 more villages. Instruction was at two levels. Students who had received earlier French training went into advanced classes. Radio broadcasts were now included in two classes per week. Instruction in two vernaculars (Djerma and Hausa) was introduced in four sessions per week.

By 1965, there were 121 beginners centers, sixty-four advanced centers, and twelve city centers—a total of 197 centers in all.

In 1966, plans were developed to extend the programmes to 150 additional villages. Instructional personnel were trained, but the
failure of equipment to arrive on schedule, delayed the expansion. Despite the problems, fifty new urban centers were started, forty-three operated by the service and seven by Roman Catholic missions.

The IIEP study *New Educational Media in Action: Case Studies for Planners* notes that the service has been well received. "Many people of Niger feel a strong desire for self-improvement and, for many, a mastery of French offers the only means of achieving upward mobility." Authorities wanted to encourage the use and learning of French as a means of national unity as well as for social and professional improvement. This also tends to make Niger a part of a larger world community. However, officials have also been wise to require that rural people acquire literacy in their own vernaculars. Opposition to the service has come from older persons and a few tradition-bound tribal leaders. Often little need is seen for more education than serves the immediate needs of the people.

This literacy service by radiovision has been an activity of the Niger Ministry of Education assisted by five French and two U.S. staff members. A contrôleur, regional inspector, does much of the organizational and operational work. He travels extensively and is responsible for regional administration. This native is assisted by a U.S. Peace Corps volunteer. Additionally, there is a literacy committee in each district and there are village instructors.

Each region maintains annual training sessions for village instructors. These sessions last a week and are directed by the con-

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troleur and the Peace Corps assistant. During the session, literacy programs are described and demonstrated. Practical instruction is given with emphasis on methods of teaching adults with the use of audiovisual aids.

Course work in the first year includes several specific topics: literacy, arithmetic, spoken French, and other educational themes. The second-year courses stress spoken and written French. Urban centers work on: spoken French and functional literacy for commerce. The final year courses are the same as the second.

Textbooks and film strips are used in all three years of lessons. Materials used in the vernacular are produced indigenously. Those in French are made in France.

Surveys on teaching effectiveness have been carried out by contrôleurs and Peace Corps volunteers. These surveys consist of extended inspections and observations of the local village operations.

By 1965, there were 11,219 students enrolled in the 197 centers. Literacy criteria, that determine who completes the courses are: read fluently, understand and write simple texts in his own language; count up to 1000 and perform the four basic arithmetical operations; and, speak elementary French with a vocabulary of 1000 words.

Adults gaining literacy also pick up knowledge in useful areas such as health, hygiene, agriculture, and administration.

While U.S. assistance to the project has been minimal, there have been recent increases in Peace Corps assignments. The United States did, however, supply some of the necessary material and office supplies. Peace Corps personnel have maintained responsible positions in the pro-
ject and have been generally well accepted. The French have, of course, made the major contributions to the radiovision service in theory and actual practice.

Nigeria Programed Learning and Language Laboratory in the Northern Region

The Ford Foundation, in 1963, in a major effort to strengthen education in Northern Nigeria, granted over 2,000,000 dollars for a teacher-training program in seven colleges. At present, only one child in seven attends primary school. This is, at least partly, a result of the lack of properly trained primary school teachers.

Teacher-training is expected to be improved by the Ford Foundation grant. There will be testing and demonstration of such modern instructional methods as team-teaching, programed learning and language laboratories.

Thirty-two consultants were to participate in the project which aimed at graduating over 8,000 primary-school teachers. Over a four year period, this would double the existing supply of primary-school teachers. Also included in the plan was a program for training 300 teachers for teachers' colleges.

A whole new curriculum, to be introduced into both training colleges and the entire primary system, was developed. Curriculum revision and improved teaching methods were also planned for the secondary level schools.⁸

This grant was to have been spread over a four year period.

There appears to be no data on how well the project succeeded in its objectives. This project had no connection with the Nigerian educational television projects that are discussed in the following reports.

**Western Nigeria Educational Television**

A leading nation in experimentation with the use of television for teaching has been Nigeria, specifically, Western Nigeria. Nigeria is roughly divided into three separate regions each with its own governing agencies and allied service organizations. Educational television has been used in all three regions: Western, Northern and Lagos. Western Nigeria had the first educational television broadcasts, Northern Nigeria the largest school television service and Lagos the newest project.

Actually, educational television was tested in the days before the nation's civil war, in 1959. The initial experiments were conducted at station WN-TV, Western Nigeria's first television station, under a grant from the regional Ministry of Education. These early programs were broadcast to 120 schools in the Lagos and Ibadan areas as well.

In 1960, after the war, the central government organized a Nigerian National School Broadcast Service for radio and television with the aid of a Ford Foundation grant.⁹

It is interesting that the impetus for the establishment of an educational broadcast service in Western Nigeria did not come from school administrators or teachers, but rather from the regional parliament. Western Nigeria pioneered the interest in this type of school service.

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After study trips to the United States and the United Kingdom, station personnel of WN-TV began to provide one and a half hours of instructional programs, each day, five days a week. These first programs consisted entirely of imported films. This was a result of the lack of production personnel and equipment.

To improve programming, the station and Ministry of Education of Western Nigeria sought and obtained foreign aid to send local staff abroad for training and for foreign materials and experts.

Initial aid took the form of a U.S. AID contract with the Washington County (Maryland) school district. This district had been the site of the famous and successful Hagerstown educational television operation; and, it was determined by U.S. AID that personnel from this school system could be useful to the Nigerian experiment. Two educational experts were assigned to Western Nigeria from Hagerstown.

The British Council (the equivalent of the U.S. State Department in foreign affairs for Great Britain) also provided experts to assist the project. Earlier Britain had supplied films for the school broadcasting service. Experts sent into Western Nigeria were to act as supervisors in an on-the-job training program for station staff members.

U.S. AID also provided television sets to be used in the schools. These were intended to replace broken sets supplied earlier by the government of Western Nigeria. So much trouble resulted from poor maintenance of television receivers that a provision was added to the U.S. AID-Hagerstown contract to provide a technical expert to repair sets and train repairmen.
Additionally, Nigerian ministry personnel were sent to the United States for television repair training.

Subject material for the school broadcasts was selected by inspectors and an advisory committee supplied by the Ministry of Education. Many films were purchased from outside the Ministry or borrowed from Great Britain. Courses in English and physical education are presented. A general science course is prepared and presented by an American teacher, who also develops teacher guides and student workbooks and observes the in-class results of his efforts.

There is no precise information on the number of schools using the service in Western Nigeria or the number of students viewing the programs.

There have been numerous problems relating to the reception of the school broadcasts. Many television receivers are not in operation as they lack proper maintenance and spare parts; there are often power shortages; and, the transmitter cannot cover certain parts of the region. Additionally, there is the lack of well trained personnel to produce programming. Finally, there is an insufficiency of funds.

Report forms sent to schools to ascertain the extent and effectiveness of the broadcasts have not been completed and returned with sufficient information to enable the officials to determine if the service is worthwhile.

U.S. involvement with the Western Nigeria project has been extensive and on-going. While it is impossible to know accurately if the programs have had any success, they must have had some. Some parliament members are asking that the service be discontinued. There are so many
problems connected with getting quality programs to the schools that some people are discouraged with the whole project. Western Nigeria's experience with educational television certainly has not been as successful as has that of Northern Nigeria or Lagos.

Educational Television in Northern Nigeria

Radio school broadcasting began in Northern Nigeria in 1957. The regional Ministry of Education already had created a school broadcast unit that produced the programs for the national radio network. BBC studies had initially indicated that school radio programs would be helpful for the region's school system.

After the merger of the Radio Corporation of Northern Nigeria with two British companies the Broadcasting Corporation of Northern Nigeria (BCNN) began to offer television school broadcasting. This was, in reality, an extension of the radio unit's work. The objective of the television service was to improve and supplement in-class instruction.10

Programming, at first, included one lesson per week for each of two courses. There were four weekly presentations as the two lessons were repeated. Broadcasting time originally totalled two hours per week. The lessons consisted of British and U.S. films.

Local production and some modification in approach were provided to make the service more meaningful. Staff and facilities were added. The number of lessons broadcast increased. This came about mostly as an aftermath of extensive U.S. assistance in the form of two

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10International Institute for Educational Planning, New Educational Media, p. 133.
U.S. AID programs. In 1962, U.S. AID implemented a contract with the University of Indiana to supply audiovisual materials and a contract with the Washington County (Hagerstown) school district to provide media experts and personnel training.

Schools selected to take part in the expanded television service had to meet two criteria: they had to be within the signal area of RKTV, the regional broadcast station, and they had to be equipped with electrical connections. Television receivers were supplied.

Teachers in the various classes used texts and follow-up discussion to supplement the television broadcasts. Teachers and students utilized the broadcast lessons as best they could under the often poor reception conditions. In addition to poor reception from the lack of good television sets, and sporadic electrical power, there was a constant struggle with the BCNN to maintain school broadcast time. BCNN wanted to use the time for commercial broadcasting. The Ministry of Education had to negotiate for whatever time they got; thus, programs were often broadcast at inconvenient times and out of sequence.

U.S. Peace Corps volunteers have also been assigned to the project. The first helped design sets and helped in program direction.

Equipment for the graphics section was supplied mostly under the U.S. AID-Indiana contract. The U.S. AID-Hagerstown contract provided production equipment and radio and television receivers.\textsuperscript{11} In 1964, U.S. AID also gave a video-tape recorder to the project.

Excessive costs due to transportation and receiver damage

\textsuperscript{11}International Institute for Educational Planning, \textit{New Educational Media}, p. 141.
caused the high unit cost of television lessons in the region. Additionally, the low population density and vastness of the region resulted in only a small proportion of the schools being able to receive the broadcasts. The lack of electrical connections and poor power supply eliminated even more schools from the service. In sum, the project in Northern Nigeria had its problems especially in expanding its service to more schools. However, Mary A. Cusack, a U.S. AID consultant, writing of the activities of the Northern Nigeria educational television operation had this to say:

Assuming some degree of local stability over the next year, 1971 the Northern Region of Nigeria, which comes the closest to achieving the basic purposes of the AID project, will continue to provide instructional programs for students and teachers in the primary and secondary schools on African geography, science, history, music, English language training, and literature, and current events.12

Despite recurring problems, educational television will continue to expand and be introduced into schools that, as yet, do not have the service. The U.S. investment in Northern Nigeria has been high and at least somewhat successful. Certainly, the programs that are delivered to the cooperating schools seem to be adequate. Technical problems are likely to be resolved in all of Nigeria, including the remote Northern region in this decade. Therefore, the U.S. investment in this project will necessarily be a long term one before it pays off in improved education for the population of this region.

Educational Television in Lagos, Nigeria

Educational television in the capital city of Lagos was the last major project to get under way. It is the newest use of educational television in the country; it started in the spring of 1965. In this case, the movement to create an educational television service came from the regional Ministry of Education. As in Western Nigeria, there is a strong emphasis on one school level, in this case, the senior primary level. In the West, emphasis was upon the entire secondary level. The specific objectives of the new television system were to upgrade the content of all secondary classroom instruction and to improve the teaching methods of the teachers who had not been well trained.

The transmissions of WNTV, the station of Western Nigeria, spilled over into the Lagos Region and this must have been an incentive to compete and develop an independent Lagos system. Another stimulant was the existence of U.S. AID money that had been going to the Northern and Western projects. The U.S. AID-Hagerstown contract was aimed at all three regions with the objective of offering a coordinated series of educational television programs. Lagos is the center of the Federal District and the second largest urban center in the country.

By 1965, the Ministry of Education approved the establishment of the educational television service, and the National Television Service (NTS) have the necessary air time. Eighty-five primary schools were equipped with receivers initially--more were supplied later. These schools represented about ninety per cent of the 119,000 primary students in the Federal District. There is a continuing problem of large classes. There are not enough sets.
As is the case in the Western region, the Ministry of Education must plead with the National Television Service for air time and use of their facilities. Broadcasts, therefore, do not always fit the schedule of the participating schools.

Each course is the responsibility of a single teacher, who plans, writes, and produces both the telelesson and the teacher guides. English is one of the basic courses and it is directed to students in the fifth, sixth, seventh, and eighth grades. Basic science is also a course offered by the service. Classroom teachers explain various points and handle television problems.

Much trouble has been reported with classroom size, poor desks, and inadequate classroom facilities in general. There have also been complaints of poorly trained in-class teachers, inadequate television presentors, and very poor television camera and production work.

A television producer from the United States, provided by the U.S. AID-Hagerstown contract, was the first producer. There was also a technician sent by the United States. Much of the production equipment as well as ten television receivers was supplied by U.S. AID. Initially, NTS was designed and equipped under a contract with RCA and NBC. This included a five year management contract. This operation was carried out almost completely between the private U.S. companies and the government of Lagos. However, U.S. personnel did enter into the educational operation as they helped run NTS.

In an effort to upgrade the in-class teachers' qualifications,
there are seminars on the use of educational television. Even though there has been general agreement on the worth of the project by teachers, students and the people of the Federal District, there have also been some strong objections. Some are skeptical of the ability of television to teach. The technical problems, poor receiving equipment, electrical failures, and poor classrooms, are pervasive and not easily overcome. However, they do not seem to pose any great threat to the continued existence of the project.

The technical problems and the prospects of better cooperation between the three districts were examined by the people from Hagerstown. Technicians, who can maintain the receiving sets, have been trained jointly in the United States. They travel from district to district as needed. Cooperative planning and production of programs was also stressed as a means of sharing equipment, staffs and existing programs to achieve economies of production and national educational unity. Each of the regions was given a video tape recorder to facilitate the exchange of taped programs. There was, however, great difficulty in breaking down barriers among the regions. Each was most anxious to retain the autonomy of its educational systems.

No objective evaluation has been reported on the project by 1972. There was no provision for it in the enterprise. It is not possible to tell, with any certainty, if the programs have made any contributions to the education of the children of the Federal District. The U.S. assistance to the Lagos project has been similar to that given those of Northern and Western Nigeria. U.S. AID funds and personnel, University of Indiana materials, Hagerstown experts and Peace Corps
volunteers have been involved in the project. It is unfortunate, that there is little evidence to indicate if the projects in all three regions have benefited the schooling of Nigerian children. It is not known definitively if the Nigerian educational aid program has achieved any significant results. It is clear, however, that the United States has made a large commitment to assist the regional governments of Nigeria in improving their educational systems.

In addition, U.S. AID entered into a contract with Ohio University in 1970 to introduce a closed circuit television system at the Advanced Teacher Training College at Kano, Nigeria. This system was designed to improve teacher training and may well be having important results.\textsuperscript{14}

Educational technology has been a major emphasis of regional governments in Nigeria and has received large U.S. assistance. On the surface, it would appear that the use of this type of teaching methodology has been somewhat successful in the areas of the country where there are both a high population density and urban centers such as Lagos and the Northern regions. In Western Nigeria, educational television has had unexpectedly poor results. It suffers from a vast land area, scattered population and poor technical support facilities.

The cooperation between regions, suggested by U.S. personnel, would be beneficial as it might tend to cut some production costs and provide better lessons for the less sophisticated regions. This cooperation is not presently possible in view of the separatist feelings of the

\textsuperscript{14}Cusack, "New Media in Africa," p. 24.
various regions. At this point, it seems that the United States has done much for the regions' educational systems; the rest may be up to the regions and their respective ministries of education. It is important that educational television in Nigeria works out well. The United States has invested much in the systems and as Mary Ann Cusack points out,

Nigeria's ETV system is being watched closely throughout the world, especially in West Africa, as a means of solving in a practical way the problem of educating masses of people where there is a tragically short supply of good schools and teachers.\textsuperscript{15}

Educational Television in Saudi Arabia

Wilson Dizard commented on an early experiment with educational television.\textsuperscript{16} The Arabian-American Oil Company had been broadcasting television for the entertainment of its employees since the late 1950's. King Faisal turned to Arabian-American Oil for help with both commercial and educational television. The facilities of the Arabian-American Oil Company were first used for educational television courses broadcast to schools in the eastern part of the country in 1964. The station at Dhahran provided the telecast equipment. This experiment by educational officials of Saudi Arabia was short lived. It does, however, represent one of several attempts by private American companies to assist educational improvements by the use of new technologies in the developing nations. This is similar to several other experiences of U.S. private interests in developing countries especially in Latin America where

\textsuperscript{15}Cusack, "New Media in Africa," p. 24.

\textsuperscript{16}Dizard, Television: A World View, p. 237.
these concerns have a stake in the better schooling of employees and prospective employees.

This early experiment with educational television, however, may have provided the groundwork for Saudi Arabia's later development of the medium in education. By the 1970's the nation used television in its schools extensively.

An Audiovisual Center in Sierra Leone

Improvement and expansion of the communication media program of the West African nation of Sierra Leone was the objective of a joint U.S.-Sierra Leonean audiovisual center in 1964. The Ministry of Education at Freetown, the capital city, was the agency in charge of the center.

Designed to serve teachers in primary and secondary schools, it was also assisting several other agencies in their operations.

The center had a basic philosophy of integrating instructional materials rather than providing isolated teaching aids. Primary school teachers were trained to construct teaching aids from inexpensive materials readily available to them. Secondary teachers were instructed in the operation of more sophisticated media and related equipment. Some media equipment was supplied to a number of schools.

Charts, posters, tapes recorded in English and Krio, the native language of the Sierra Leoneans, were stressed in the multipurpose approach that the center developed. Field trips also became a lively new means of utilizing community resources. An educational records library, donated by UNESCO, was available to students in all the schools.
Equipped with transistor record players, some schools without electricity enjoyed for the first time music from other countries, stories, and lectures. A small film and filmstrip library was used; but, it lacked many films in certain areas such as science. Reference books, textbooks, pamphlets and related printed materials were available in the audiovisual library. In general, there was extensive use of all the facilities and much enthusiasm for the specific methods introduced by the center, as reported in the early stages of the project.

This joint venture began in 1964, when a team of five—four from Sierra Leone and one from the United States—set out to build and equip the center. The initial plan issued from a contract between U.S. AID and the Indiana University. Indiana University supplied experts in media and administered the program. At first, there was an on-the-spot review of the needs of the country. The broad needs of Sierra Leone as well as guidelines were set down. Further study resulted in the final plan which initially called for staffing by the Ministry of Education. Several Sierra Leoneans were sent to the United States for audiovisual training.

Although at the time the report was written, there still seemed to be many problems with the center—lack of funds, no trained personnel, and a need for research on the need for audiovisual training—the center was well on its way to becoming a key fixture in the educational system of the country. The center had trained many teachers, developed a good number of audiovisual aids, and introduced an innovative approach to teaching.

The prospects for the center appeared good; a joint venture
such as this seemed to be a good way to involve both the donor country and the host country in the overall planning and operation of an educational project. While this project did not involve the large amount of money that is required in some undertakings, it still may prove of great value to the school system of Sierra Leone. Harry A. Johnson, an advisor to the U.S. AID project in the country, noted:

All who have cooperated in this communications program, designed for Sierra Leoneans, feel confident that it is helping in a small way to improve instruction in this progressive young West African nation.

Uganda Educational Television

Uganda, in 1966, was seriously considering the establishment of a national correspondence educational scheme. Uganda had been visited in 1965 by a team of U.S. experts sent out by U.S. AID. The team proposed the expanded use of radio, television, and correspondence instruction to improve the educational system of the country. The Ministry considered the proposal and was expected to implement some of the specific recommendations.

The U.S. AID report listed, in priority, the educational needs for Uganda for which special educational television, radio and correspondence programmes could be developed.

The following items were suggested, in rank order, in the final report:

1. In-service training, especially in English, for primary teachers.

Harry A. Johnson, "A Media Program for Sierra Leone," Audiovisual Instructor, (June, 1964), 34.
2. Direct instruction for primary school students, especially in English and the sciences.

3. Instruction for primary school leavers in:
   a) additional study for Cambridge examinations
   b) vocational and agricultural training, and
   c) general citizenship training.

4. Direct instruction to the secondary schools and teacher training colleges, especially in science.

5. University-parallel instruction on first and/or second year levels.

6. Adult education in both formal and informal fields.

7. The team also recommends a comprehensive National Educational Radio and Television Service.¹⁸

These recommendations by the U.S. AID study may not have been fully implemented for several basic reasons. First, a study on the possibilities of using correspondence instruction in Uganda by another group found two barriers to such a scheme:

1. The spread of television sets is at present inadequate in Uganda from an educational point of view, and

2. Close links would have to be established between different government ministries to make the planning and implementing of educational television/correspondence programmes effective.¹⁹

Even though the exact nature of the Uganda educational television/radio/correspondence school which was developed is not known, it probably followed the lines suggested by the U.S. AID team.

An Audiovisual Center in Uganda

In September of 1969, the Audio-Visual Aids Center of the Na-

¹⁸Edstroem, *Correspondence Instruction in Ethiopia*, p. 110.
¹⁹Ibid.
tional Institute of Education on the campus of Makerere University College, Kampala, Uganda, began operations.

The center is a part of a facility housing the library. It will serve the faculty of Makerere University, the Institute of Education, and teachers' colleges throughout the country. Part of the funds for this center were supplied by the Carnegie Corporation, a U.S. philanthropic organization. The multipurpose center is housed on two floors and is spacious.

One of the main functions of the center is to provide training with a major in audio-visual education. Students working on the B.Ed. degree attend the center for audiovisual training. Also enrolled are students working on the Dip.Ed., a post-graduate diploma in education.

The basic course in visual aids is mandatory and very practical in nature. It stresses simple materials such as flannelboards, blackboards, and posters. Materials in the basic visual aids course cost about $2.50 per person.

After the second year, students are introduced to more elaborate types of equipment such as tape recorders, film projectors, and the like. These aids are used extensively for enrichment purposes and practical demonstrations of operations. Most students come from areas where few have seen or heard some of the newer aids.

In the third year, students are encouraged to produce materials and aids on their own. This, then, becomes more practical experience in the actual production of needed materials.

There are no required textbooks; but, rather, the emphasis is on supplementary notes on each course. The rudimentary approach of the
center seems appropriate for the conditions in Uganda and the capabilities of the audiovisual facility at Kampala. This is one of the few foreign projects of any sort sponsored by the Carnegie Foundation. While it is less ambitious than some of those funded by the Ford Foundation, it does indicate an interest in educational technology in the developing countries by a foundation that spends most of its time and money on domestic U.S. problems.

Zaire Radio and Television Education

Service Technique Africain de Radio (STAR), the first educational radio venture in Zaire, previously called the Congo, was started with the help of Catholic missionary organizations in 1963. None of the programs was "religious" in content; but, dealt, in the main, with health education, agriculture, business production, emancipation of women, youth problems, the arts, general science, and world problems.20

The television service of Service Technique Africain de Radio (TELESTAR) began in 1969. In that same year, STAR produced thirty-two educational radio programs (thirteen hours) per week which were aired on the national radio station. This expanded radio and television service emphasized radio broadcasts over television as there is an acute lack of television receivers in the country. It is not expected that television programs will be produced on a large scale until the shortage of receivers is overcome.

Programs produced by TELESTAR are broadcast in several languages--French, Lingala, Tshiluba, Kikongo and Shwahili--to serve the

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20 Cusack, "New Media in Africa," p. 29.
many and diverse language needs of the population.

The radio headquarters at Kinshasa has a staff composed of twenty-two members including several Europeans. There are five regional radio production centers. These centers distribute programs to local radio stations for re-broadcast.

The television facilities include a large production building, processing laboratories, optical sound equipment, videotape recorders, a microwave link, and the government broadcasting studios.

The expanded TELESTAR operation has been funded to a large extent by U.S. AID money through U.S. funds from surplus food sales to Zaire. The use of U.S. owned foreign monies for local projects is typical throughout Africa. Additionally, West Germany assisted the project with a large technical assistance grant in German marks totaling over $1,200,000.00. Two TELESTAR officials travelled through Europe and the United States raising over $500,000.00 for the operation.

One one-third of the operating budget is underwritten by the Zaire government; the rest is supplied by other countries such as the United States and Germany or by local ministries. However, in 1962, TELESTAR hopes to be self-supporting by sales and rentals of its programs.

TELESTAR's audience is mostly youthful and out-of-school and is in the urban centers. Most of these young people are unemployed and in the Kinshasa area. While the programs have been designed with this audience in mind, later the service is to provide programs for the 2,500,000 students in schools. This will be almost entirely primary school broadcasts as only 300,000 students are enrolled in secondary schools in Zaire.
Television service is planned for the future but cannot be implemented on a large scale until the cost of television receivers is reduced. Currently, a set costs about $400.00. One method of reaching an audience with television has been to install television sets in open-air viewing locations. Another way has been to encourage television clubs as viewing and study groups.

Programming for television is also expensive and scarce. Most prime time programs come from foreign sources.

The Zaire experience is typical of the African use of educational broadcasting in several ways: it is aimed mainly at adults; it started with a radio service which is still the chief educational medium; and it has many technical and financial problems.

U.S. AID support of Zaire's educational radio and television project is perhaps typical of U.S. activities in Africa. American held foreign currency in the country is used to help fund the operations. In the case of Zaire, over $600,000.00 were given to the STAR and TELESTAR projects for purchases and operating expenses.

There have been no published results of the use of Zaire radio and television education programs other than the report of a large number of letter responses to the broadcasts. This type of "development" education is difficult, if not impossible, to assess. However, Griffith Davis, a U.S. AID official, believes that operations such as that of TELESTAR are making important gains in Africa in entertainment and information, as well as having a great potential for education.\(^{21}\)

Other Educational Projects in Africa

The Bourguiba Institute of Languages in Tunisia received a sizeable grant from the Ford Foundation to strengthen its English language program. The grant was to support scholarships and linguistic seminars in the language and provide funds for a language laboratory and audiovisual aids.

In the Sudan, U.S. AID provided a transmitter for commercial, state and educational broadcasting. Besides the transmitter, technicians have been trained with American assistance to operate the station and transmitter.

Zambia, Malawi, Kenya, and the Sudan have all been the recipient of transmitters and technician training from the United States. These facilities in all four countries have been used for educational broadcasting or are planned for educational broadcasting. In each case, correspondence education is being carried out or considered. The similarities in the countries' use of the transmitter and correspondence education suggest a pattern. A pattern may be developing in which radio and television in the smaller African countries can be used for education of both the elite professional degree-seeking people and the broad spectrum of adult and young students who wish to better themselves. It seems to be an effective, inexpensive and adaptable means of reaching a large and diversified population. The United States has emphasized this approach in those countries where more sophisticated and expensive systems could not be applied.

Perhaps the opposite of this approach is that seen in Nigeria where much money and time have gone into an elaborate and expensive edu-
cational television system. Probably, in terms of value received, the correspondence education with radio has been the most effective and least costly for the cooperating countries and the United States. Nigeria has received as much help from the United States as any nation in Africa, and almost as much as some of the closely allied nations of Southeast Asia. Nigeria has been a major target of U.S. aid in Africa and the world as well. Not only is the monetary investment great, but, so too, is the variety of projects organized or joined by the United States.

Overall, the investment in the educational systems of Africa's developing countries has been significant and ongoing. There is no sign that the aid will stop; in fact, there are hints of new projects and more money, in the 1970's, for Africa. Competition among the developed countries in Africa is keen. Most educational aid from other countries, such as France, Great Britain and West Germany, is directed toward Africa. This is partly a result of the colonial ties that remain in many cases, but it also may be an indication of a sort of neo-colonial activity in the continent. The developed nations may be trying to maintain their own economic and political interests or to extend their own cultural patterns. Critics of colonialism have stated that Africa is still not free of the imperial powers. Influence is now maintained in a new form through social, cultural and now educational ties.

Africa remains an important locale for educational aid as well as economic, military and cultural assistance. U.S. aid, in the form of

new educational technologies for Africa, will probably continue to come from U.S. AID and the U.S. State Department. The Ford Foundation has shifted its activities in Africa to the study and development of agriculture and economics and to the encouragement of family planning. In the immediate future, it is not likely to fund large-scale educational projects.

The State Department has a long history of educational assistance for special projects in African countries, such as Egypt where literacy training by television was a significant undertaking.

This effort began in 1963 when two audiovisual and television experts, I. Keith Tyler and his wife Margaret Tyler, were dispatched to Egypt. In addition to aiding the television literacy project, they drew up a five-year program for school television which is slowly being implemented.\textsuperscript{23} Previously, educational television was assigned to the third channel of the television service of the national network; and, had emphasized such "development" courses as: health, sanitation, home economics and other types of social education. Much time was also devoted to presenting issues and events of national interest.

State Department direct aid is usually limited to the assignment of consultants or experts to projects. While this is useful for the developing countries, it is hard to estimate the costs or effectiveness of this approach. U.S. AID assistance is often more obvious and large scale. It is not difficult to locate and often there is abundant pub-

\textsuperscript{23}Dizard, 	extit{Television: A World View}, p. 149.
lished research to substantiate its value or to stimulate the redesign of the projects. It may also be that U.S. AID assistance has as one of its objectives high visibility. More than simply being aid to developing countries, it might be an indicator of the concern for and faith in the developing countries of Africa by the United States.

Nations in the Middle East such as Iran and Turkey have received assistance for projects involving educational technology. Unfortunately, reports of these efforts have not been located by this writer. Additionally, reports on aid received by Israel have not been found. Israel has received large financial boosts from the United States; but, this has been, for the most part, from private sources in the United States. Some of this money has, doubtless, gone into the several media projects that have gone on in Israel. An example of this is the current training films used to indoctrinate newcomers into Israeli culture and ways. It is impossible to estimate the impact American funds have had on this and other similar projects.

Many Middle Eastern students as well as African students have studied media and education in the United States on grants from their respective countries or from the United States.

In sum, the most significant types of U.S. aid to developing countries in both Africa and the Middle East may be the provision for education and training abroad and the sending of specialists as consultants rather than the more visible projects involving large direct grants of equipment, facilities and money.
CHAPTER VI

PROJECTS IN ASIA AND THE PACIFIC ISLANDS

The following examples of educational technology in the developing countries of Asia are ones that have received some support from the United States. This aid may be in the form of Peace Corps volunteers, direct cash payments for projects, technical assistance in the form of equipment or personnel, or the furnishing of consultants.

Payments to countries in the form of foreign aid often filter down to individual media projects; the cases of this sort are impossible to identify. Large grants to countries in Southeast Asia are often not designated for specific objectives. Grants are most often designed to support large scale improvements in educational systems and may not specify exactly how the money is to be spent. Ford Foundation grants are usually specific and so it is possible to ascertain the projects that it has funded.

It is appropriate to begin an examination of educational technology and U.S. support in Asia with India. India was one of the first countries in Asia and the world to receive U.S. assistance, and one of the largest recipients.

Programmed Instruction in India

One of the latest developments in new educational methodology
was initiated in India in 1970. This limited but important activity is still under way. With the help of U.S. AID, and under the direction of the U.S. National Education Association an international study of the use of programed instruction in developing countries has been created. The pilot phase of the study has been completed.

The project is evaluating various features of PI to determine if there are potential contributions that this approach can have for developing nations. Of particular concern is its effectiveness and cultural implications.

Workshops in Bombay and Poona have been held to train approximately 150 Indians in the use and preparation of programed materials. These trainees are then to train other teachers and supervisors. After training, it is hoped that usable materials will be produced, implemented and evaluated.

The project is designed to provide for the systematic integration of PI into the overall educational system. Chadwick believes that the study is well planned and will reach a sizeable number of supervisors and teachers. These activities seem to be preparing for a computer system that has been planned for India.¹

The Literacy House - Lucknow, India

Programs of "Literacy House" in Lucknow, India, include training of personnel, preparation of materials, and sponsorship of a wide variety of projects generally related to developing and sustaining liter-

¹Clifton Chadwick, Educational Technology in International Development (Tallahassee, Fla.: Florida State University, 1970), p. 43.
acy. Three basic concepts provide the impetus for the programs: functional literacy, food production, and family welfare planning. Specific activities of "Literacy House" are: training programs for literacy personnel (teachers, librarians, and others); preparation of publications and audiovisual materials; maintenance of the central library and smaller mobile libraries; field work; and the overall administration of the institution.

Among its many successful undertakings, are those in the area of educational technology. Some of these accomplishments include programmed instructional materials, over 23,000 audiovisual aids (Khaddargraphs, flashcards, posters, and similar materials), and the central and mobile libraries. All of this was initiated and completed in less than five years, commencing in 1964.

This five year program was financed by a grant from the United States Agency for International Development. The first three years the grant period were devoted to program planning, completion of old projects, initiation of new ones and administrative adjustments to a considerably expanded sphere of operations. By 1967, the expanded program was in full operation and by 1968, there was much evidence to suggest that "Literacy House" had become a national institution. The scope of its activities had been greatly widened from teacher training and organization of literacy classes to a comprehensive program of adult education, communications education and the training of literacy supervisors and administrators. Follow-up to literacy training was carried on with extensive publications, a translation program and a very successful mobile library operation. Additionally, a start was made in the investigation
of motivation for literacy.

Mrs. Welthy Fisher, founder of "Literacy House," received the first Nehru Literacy Award, in 1968, for work in this institution.

Money supplied by AID was instrumental in the operation and successes of the programs. One study of the project claimed that "it was during the period of the AID grant that 'Literacy House' has achieved this national image."2

While there are no data to indicate the numbers of Indians to receive literacy training or the extent of functional literacy achieved on a large scale, the allied activities such as library operations, teacher training, and direct production of audiovisual materials suggest that many, at least in the Lucknow area, are being offered useful literacy training.

Package Program - An Agricultural Extension Plan for India

The so-called "Package Plan" is a broad development plan and campaign with the official title Intensive Agricultural District Program. It is designed to reach some millions of farmers in selected areas of the country. Usually, it is operated in each state by the government of India. It has received financial aid and technical assistance from the Ford Foundation.

The intent of the "Package Plan" is to make ideas and information of farming techniques as local as possible, and responsive, in as

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many ways as possible, to the needs and cultures of the various villages. Each district in the program has its own information unit. The official plan indicates that the activities of the information offices will be conducted as a part of an integrated center-state-district information service. These units are the first district agriculture information offices to be established in India. These units have several functions but primary among them is to develop and employ available means of mass dissemination of technical and program information to cultivators and the general public. Units have produced and distributed visuals, leaflets, photographs, posters, and slides for use in their districts. They have also aided in the training of extension workers. In addition, they have utilized newspaper and magazine publicity, public speeches, radio programs, exhibits at fairs, motion pictures and filmstrips. "Feedback" is one more objective of the program. It is hoped that all the activities taken together will result in continuous communication of information and ideas to the farmers and back to the information units.

A wide variety of media and interpersonal communications have been combined to achieve the goals of the "Package Program." Knowledge of local cultures and problems coupled with ample funds have contributed greatly to the success of the effort to date. However, the results of this program have not been fully assessed.

Early increases in productivity suggested that the program was having some success. Lately, many of the districts in the program have become self-sufficient and even able to export produce. It is impossible to ascertain if the program itself had much impact on the increase in productivity, but it must have had some.
Wilbur Schramm points out that "not every country, of course, can have an agricultural development program as well supported as the one we have described." The fact that the Ford Foundation gave extensively to the program doubtless caused the resulting effects to be more dramatic. Money is still available for this project and similar ones in India. The Ford Foundation has contributed millions of dollars to India for educational programs and related development activities.

Educational Television from All India Radio (AIR)

In January of 1960, a Ford Foundation team surveyed ETV prospects for India at the invitation of All India Radio (AIR). The final report of the team suggested that a Ford Foundation grant should be made to support direct ETV instruction in science and language studies at the ninth class level in the Delhi State school system.

This first and largest of the Ford Foundation's overseas educational television projects began with a grant of $470,000.00 to AIR and the Indian government. Over the four years of this experimental project, the Indian government was to increase its share of the cost as the Foundation's financial share would decrease. Six hundred TV receivers, a studio, and test equipment along with a five-kilowatt amplifier were purchased. Additionally, in-service training of Indian broadcasting and educational personnel was provided.

AIR officers and technicians were sent for training in the United States and in-service workshops were organized for all ninth-class

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3Schramm, Mass Media, p. 151.
teachers of physics, chemistry, Hindi and English in the project.

Actual teaching by television began in September 1961. By 1962, ETV was being received in over 150 schools in the environs of Delhi. By 1970, television sets had been installed in 345 schools; and instructional programs were available to 50,000 students of science, 125,000 of English, general science and social studies.

In 1965, the final year of Ford Foundation funding of the AIR-ETV project, it seemed that India could not support the educational television system. Without additional money or technical resources, television solely for education was not feasible.

As the Ford Foundation commitment came to an end, the West German government allocated $400,000.00 for expanded school broadcast experiments. This grant allowed the Delhi station to increase its ETV schedule from four to six hours a day. However, much of the German money went to strengthen the entertainment programming of the Delhi station. This also provided the impetus for more state control of the medium. It remains to be seen what importance the government will place on ETV.

In spite of the financial troubles, reports on the educational value of the programs were encouraging. Both teachers and administrators seemed to be pleased with the service and stated that the television lessons, particularly the lessons in Hindi, provided as much learning for the teachers as for the students.  

Even though the initial learning results may have been encouraging, in general, the prospects for continued educational television on

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a large scale are bleak. Recent studies reported that the Delhi station could handle both school and general broadcasts. Thus, notwithstanding Mrs. Indira Gandhi's declaration that TV would be good for India only if it were used to expand educational opportunities rather than as an entertainment medium, TV is becoming other than educational per se.\(^5\)

India Satellite Instructional Television

The planned Indian satellite experiment originally scheduled to begin operations in 1974 or 1975 has been delayed for some time. The initial plan called for using a borrowed U.S. satellite that could beam instructional television directly to individual sets in over 2,500 villages. In the larger cities, the television signals would be received through large ground receivers and transmitted to their surrounding populations. By the year 1985, India hoped to have her own satellite communications system capable of reaching 560,000 villages. The main ground station in all plans being considered by India would be located at Ahmedabad. This station would beam the national television programs which, in turn, would be retransmitted by the satellite with pictures and synchronous sound in three different languages to half a dozen ground relay stations in various sections of the sub-continent. Reception of the signal would require specially designed sets in over five thousand villages.

Educational programs will emphasize family planning, agricultural development, hygiene, and the rudiments of an elementary-school

curriculum.  

The advantages of using satellite television in a country such as India are many. A satellite can provide a large land area (a million square miles or more) with communications potential that otherwise might not be possible. It could transmit over rugged geographic areas to isolated or scattered populations. It could beam in either a selective or general pattern to its receivers. Finally, it can reach areas too expensive to approach in conventional manners. The quality of transmission also tends to be superior to traditional broadcasting.

Implementation of the satellite is being delayed by additional studies of cost of this extremely expensive system.

Initial plans for the India satellite project were submitted by several organizations: UNESCO, NASA and the International Committee for Space and Aeronautical Relations (INCOSPAR). Later General Electric, Westinghouse, Hughes Aircraft and COMSAT also submitted plans.

The NASA and INCOSPAR plans called for a pilot project of one year's duration. They included one earth station at Ahmedabad, three VHF transmitting stations, and 200 special dish antennas. The capital costs of the plan was initially set at 224 million dollars with operating costs of 4.1 million dollars per year. Later estimates of the project set the costs much higher at around 750 million dollars over a twenty year period. Support for this plan came from many sources; but, the strongest recommendation came from a study funded by the United States Agency for

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International Development. It noted several problems with the satellite system such as the technological support of the operation, high costs, transmission spillover, and control of programming. However, they conclude that if India is to modernize her very poor educational system, she must take the risks.

Another positive study of the Indian satellite project was submitted to a hearing before the House of Representatives Committee on Foreign Affairs: the Subcommittee on National Security Policy and Scientific Developments of the United States on May 22, 1969. It, too, noted the problems of the satellite project, but developed the argument that it was in the interest of U.S. foreign policy to aid India in such a fashion. The costs would be high for us and for India; but, it was the only way India could hope to upgrade her educational system.

While the value of the satellite project is accepted by most U.S. planners, India still seems to be having trouble committing herself to a specific proposal. Conflicting estimates of costs and effectiveness are puzzling. Westinghouse could supply a system that relied on a fleet of aircraft rather than a satellite. The plan is similar to the MPATI airborne broadcasting service that was used in the United States in

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the 1950's and 1960's. The main difference is a larger fleet of aircraft. The cost of this operation is set at thirty million dollars initial investment and twenty-five million dollars a year operating costs.

The General Electric plan, using satellite transmissions, suggested a capital cost of only 100 million dollars. Hughes Aircraft asked for 154 million for a satellite support system. In all of the plans, except that of Westinghouse, a satellite would be provided on a cost only, twenty-year pay plan by NASA.

It would appear that in any plan involving a U.S. satellite, the United States would have to supply extensive credit either in the form of direct cash loans or extensive use of the U.S. satellite. However, in any case, India would be expected eventually to foot the bill.

The question of the best plan and the risk of spending so much money on a system that is still untried has caused the delay and possible termination of the project. However, there is still great interest in the prospects for some sort of Indian satellite broadcasting system both in India and in the United States.

Philippines Educational Television

The Ateneo de Manila University, a Jesuit school, has developed two projects to give the Philippine Republic a strong ETV lead among the developing countries of Asia. The projects involve the training of Philippine educators in the use of television and other audiovisual devices and the development of a program for school telecasting throughout the country. The University has developed an educational media
center in its graduate school of education. The course of studies, which places heavy emphasis on educational television, leads to the Master of Arts degree. Practical experience at the Center for Educational Television complements classroom communications theory. It has complete television studio facilities to train Ateneo's students, educational administrators, studio instructors and classroom teachers throughout the Philippines.

The Center broadcasts telelessons for six hours a day, five days a week, ten months a year, to over 30,000 students in 112 schools. The Center supplies training, programming, transmission, production, publications, and school coordination services. Three broadcast systems are used: 2500 megahertz, closed-circuit, and open broadcast.

Later, the Center hopes to establish an instructional television service and a national media service. Other plans include extending coverage to the provinces, a telecourse library, and a tape duplication service.9

A second ETV project undertaken by the Ateneo Center is the closed-circuit teaching system for the University and Maryknoll College, an adjoining institution. ETV programs are broadcast on the circuit internally and then cabled on to the Maryknoll College. Programs are produced at the Center itself.

Finally, the Ateneo has become associated with the Manila Metropolitan Educational Television Association Incorporated (META). This community educational television organization is supported by a

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160,000 Philippine dollar grant from the Asia Foundation. META also receives assistance from "cooperative agencies" such as the United States Agency for International Development, the National Commission of the Philippines, UNESCO, USIS, and local groups and businessmen.

META, as consortium of Philippine and American organizations, has the main objective of utilizing available daytime facilities of local television stations for direct classroom instruction. Early efforts were limited to offering instruction at the high school level and only in the Manila area.

META and its "cooperating agencies" plan to extend telecasts to secondary schools in Bacalod, Baguio, Cebu, Davao and Iloilo, and eventually to elementary and collegiate levels of instruction.

The Asia Foundation grant covers the costs of an ETV training seminar for school administrators and teachers involved in the project, as well as for the production of physics courses consisting of a series of 100 half-hour lessons.10

U.S. AID, USIS and several U.S. businesses in Manila are supporting the META projects as well as the ETV activities of the Ateneo de Manila University. In addition, the Ford Foundation is supporting the Ateneo in its educational television operation. Ford money is also instrumental in the META projects. ETV seems to be one way of upgrading education in the Philippines. U.S. financial aid helps to stretch the budget of the Philippines which is already allocating 26 per cent of its expenditures for education.

10Dizard, Television: A World View, p. 246.
Samoa Educational Television

The educational television project in American Samoa is one of the most extensive efforts that the United States has undertaken to date. It is surely the most widely reported.

The United States Government sent a team of engineers, educators, and broadcasters, selected by the National Association of Educational Broadcasters and headed by Vernon Bronson, to Samoa to investigate the possibility of using educational television on a large scale for direct teaching in 1961. Results of the study prompted the U.S. Government to undertake an extensive television program in the Islands.

In 1963, construction of the television facilities started. A studio, transmitter building, and two transmitting towers were initially installed. The two towers were constructed, with considerable difficulty, on the summit of Mt. Alava, a prominent mountain near the harbor of Pago Pago.

By 1964, three channels of instructional television were being beamed to elementary classrooms. Three more channels were incorporated into the system in 1965. In 1972, almost all Samoan children are receiving instructional television.

Broadcast television is designed to supply the main component of all classroom instruction. Curriculum for the system is built around two essential features: language comprehension and composition. English is the primary language of the programs.

Curriculum design, lesson plans, student worksheets, and allied materials are created by the ETV staff on the Islands. Production of the telelessons is handled by the studio staff.
Evaluations of the results of the Samoa project have been extensive. For the most part, they have arrived at mixed conclusions.

Sidney Tickton, commenting on the project for a report by the United States Agency for International Development on educational television in the developing countries, based the poor showing by secondary students centers on the advanced age of most Samoan students at the beginning of the television project. He stated that the older students were not able to adjust quickly enough to both a new curriculum and new methods of teaching.

Tickton concluded, however, that television in Samoa is moving toward being a crucial part of an instructional package that can provide teacher supervision, in-service teacher training, specially designed schools, and a curriculum that does not rely solely upon rote memorization.11

The costs of operating educational television in Samoa have been high. Initial capital expenses ran over $2,300,000.00. Yearly operation costs average about $1,200,000.00 or $182.00 per student. This does not even include the allied costs of supplying American personnel. The U.S. Government has paid for the total operation and construction of the system. Yet it must be remembered that the educational television project had to supply the total schooling system for the islands. There had been virtually no educational system before television was introduced. Additionally, the United States Government has the complete responsibility for maintaining schools in this U.S. territory.

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This project, more than an educational system for just one country, is thought to be a model for other efforts in developing countries. This, in fact, may justify the large investment in the program.

Thailand Educational Radio

Thailand's Ministry of Education began an educational radio broadcast service as early as 1954. The service was closely associated with the Bangkok Technical Institute which supplied technicians for station maintenance and operation.

Initially, the home service consisted of 16 hours broadcast time per week--6 p.m. to 8 p.m., Monday through Saturday, and 4 p.m. to 8 p.m. on Sunday. Schoolchildren, teachers, and the general public were to benefit from the enrichment type programs.

By 1956, the station had increased its signal and coverage area. Additionally, the Ministry helped supply receivers to schools in rural sections of the country.

Later, the Ministry resolved to begin direct radio teaching of the English language to participating schools. English is a second language in the country and there is a lack of qualified teachers to teach it. Music was also selected for school broadcasting. Attempts to encourage certain social values in the traditional Thai schools had met with little success. It was determined that a unified radio program in the social studies could bring about desired improvement in certain social attitudes.

Several pervasive problems troubled the school broadcasts. Thailand lacked trained school broadcasters. There were few teachers in
the country who had the combined skills of a teacher and radio broadcaster. However, the first producer hired for the service had worked for the Voice of America and had special qualifications to produce and teach the remaining new personnel.

The second major problem facing the new service was the lack of radios in the participating schools. However, many sets were provided by the Ministry. Advisors on installation and antenna erection accompanied the television receivers to the schools. Private donations of radios helped to relieve some of the problem, but the lack of sets was a real limitation until 1965 when UNESCO and the U.S. Agency for International Development supplied several hundred more.

The first series of radio lessons began in 1958 and by 1959 the Ministry decided to offer the service to any school in the country. This expansion was limited by the signal area of the broadcasting station and lack of radios in many schools.

To support the widened service, programming staff and engineers were sent abroad for more training through funds supplied by the Colombo Plan, UNESCO and U.S. AID.

As the service expanded, the program offerings broadened to include six consecutive years of English instruction beginning with grade five. Special teacher training programs were started and entertainment type broadcasts were initiated.

Along with the expansion of coverage and programming, evaluation was beginning to come in. The evaluation reports were studied and a system of continual revision and improvement was developed.
In the 1960's, radio instruction was going to roughly 5000 schools and 800,000 students. By 1971, almost 6000 schools were receiving the school radio broadcasts.

Results of the Thai radio broadcasts have been mixed. Studies have demonstrated a weakness in English instruction, but a strong increase in music appreciation. Social studies seemed to be successful in the higher grades, but less so in the lower classes.

Further, evaluation reports indicated that the broadcasts were received favorably by teachers, students, and administrators.

Radio school broadcasting in Thailand seems to be a good example of a successful application of one of the media to mass education. It proved to be inexpensive and brought about many desired results. It enlivened the classroom, shared expert teaching, provided a model for in-class teachers, and provided learning experiences that otherwise would not have been available to the Thai children.\(^{12}\)

Richard Meyer, after a visit to the radio broadcast schools, had many good things to say of the service in an *Educational Broadcasting Review* article. He, too, saw the service as a good example of the use of this medium for education that could serve as a model for other developing countries.\(^{13}\)

**Thailand Educational Television**

Bangkok municipality has been producing ITV for primary and


post-primary levels for the last five years. It secures time from a local television station for one-hour-per-day, five-a-week service.

English, mathematics, science and the Thai language are televi-s cast to post-primary classes. Music and social studies are broadcast to primary grades.

Over one hundred schools in the Bangkok area utilize the service as well as one hundred schools outside the city.

Many of the programs are videotaped for later and continued use, while some are broadcast live to the schools. The main problem to date with the operation of the service has been the maintenance of receivers and the initial capital outlay for the sets. There are few of the support facilities usually found in the developed countries so many sets are not in use. Additionally, the classrooms are not well designed to accommodate extensive television instruction. Reception of good television pictures is also a problem that has yet to be solved. While the physical problems of the classroom and poor reception cause some inadequate utilization, the service has had, for the most part, fair results. Richard Meyer reports that with increased resources the service is capable of being expanded even into the up-country of Thailand. However, he is not convinced that the Thai radio and television services have been utilized to their capacity; thus it may be too early to decide if they should serve as examples to other developing countries in Asia.14

Peace Corps volunteers have been active in the Bangkok telecasts, especially in the English language programs. This has been a rea-

14Ibid., 33.
son for improvement in the language broadcasts.

In addition to Peace Corps help, U.S. AID has been supportive of the efforts. It has supplied equipment, money and consultants for this educational television project.

The Asian projects discussed in this chapter are the ones which have been documented and are typical of, although probably larger than, other projects that were not located. It is clear that some projects, for which money was allocated, never started or faltered in their initial stages and thus are not reported. Nevertheless, the projects examined in this study represent a majority of such efforts undertaken in Asia and supported in some way by the United States.

Without exact figures on the contributions of the United States to Southeast Asia, it is impossible to be certain which Asian country receives the greatest educational assistance from the U.S. However, it is likely that India has received a good share of our aid to educational technology in Asia. Certainly from the cases identified in this study, this seems to be true. Both the U.S. Government and the Ford Foundation have invested heavily in media projects in the Sub-continent. Samoa has received a large assist from the U.S. Government, but it must be remembered that these islands are now a territory of the United States and do not really qualify as a separate developing country in Asia. While the Philippines have a special relationship with the United States, they are sovereign and are, of course, an Asian nation.

The Ford Foundation has changed its approach to foreign grants to a more basic type of research and will not, in the foreseeable future, be funding projects such as the Delhi School television. However, smal-
ler projects in Asia include a Ford Foundation project in Burma that centers on the use of mobile vans containing audiovisual materials for teaching "development" type topics such as health, agriculture, hygiene and related subjects. Another Ford Foundation-supported operation, developed in conjunction with U.S. AID, is an area training activity titled The Southeast Asia Regional Center for Educational Innovation and Technology (INNOTECH). The Center has the basic mission of developing and introducing new approaches to education and training educational technologists in systems analysis skills for regional needs. This training center anticipates the introduction of computer systems which are being planned for some of the school systems in Asia.15

Except for the Indian satellite, which has been shelved for the time being pending selection of plans by the Indian Government, and continuing aid to Thailand and other Southeast Asian countries, there are no reported plans to supply money for education in Asian countries. Congressional hearings on foreign aid have been concerned more and more with criticisms of the lack of positive effects of educational payments to the countries of Asia--especially India. For all the money spent on India, the results have been marginal. There has also been the question of an investment in India, a country that has been increasently leaning toward the Communist bloc for support and friendship.

In sum, the projects in Asia to date, may be the only ones that will have the support of the U.S. Government and American philanthropic organizations. Cuts in foreign aid itself, and a change in direction of

15Chadwick, Educational Technology, p. 42.
spending to more basic kinds of programs such as agriculture, family planning, and economics may indicate that educational technology in Asia will be neglected. Too, it is likely that the United States may no longer consider Asia within her sphere of influence and thus discontinue extensive foreign aid to that area.

All of this evidence taken together seems to suggest that the U.S. support to the countries of Asia for educational technology may be coming to an end or at least diminishing considerably.
CHAPTER VII

PROJECTS IN LATIN AMERICA AND THE CARIBBEAN ISLANDS

The United States has always taken a keen interest in the affairs and conditions of the countries in Latin America. There has been a long history of U.S. assistance to these countries in the forms of money, military protection, and cultural exchanges. The latest flow of money to this region has probably resulted from the fact that Europe is now economically sound and no longer is in need of massive U.S. aid, and that there is felt to be a growing threat of communism related to the Cuban experience.

The Organization of American States (OAS) and the Alliance for Progress have done much to cement U.S. and Latin American relations; more important they have served to identify specific economic, social, military and educational needs in these developing countries.

Many of the projects in Latin America center on radio and television instruction. As these represent some of the more recent educational technologies it is not unusual to find them emphasized. However, less sophisticated methods are also found.

Brazilian Audiovisual Center

A U.S. AID contract with Michigan State University, in the early 1960's, called for the University to establish a Brazilian audio-
visual center. This center was to provide leadership in the design and development of prototype classroom instructional materials suited to the needs of academic education; provide training courses, demonstrations, written materials, etc., to promote the preparation and effective utilization of classroom teaching resources; prepare basic texts and manuals on the subject of audiovisual education methods and media; exchange information relative to audiovisual education methods and media with other appropriate institutions throughout the country and abroad; and, serve as a model for future regional centers of a similar nature.¹

By 1962, the Center had become a sophisticated media center with a well trained teacher education staff, a good graphic department, and a thoroughly equipped 16mm film production unit. To train the staff there had been 17 scholarships for members to study in the United States. To date the center has specialized in programmed instruction, instructional materials, educational television, educational radio, graphics production, motion picture production, curriculum designs, and audiovisual education administration.

Also in 1962, the University of Sao Paulo began its first credit course in audiovisual education. This "train the trainer" program offered a nine-month course to teachers who would be using AV materials in all of the Brazilian states. Authorities in Brazil believed that this methods course would not only introduce new instructional procedures, but would tend to break down the tradition-bound approach to teaching that many teachers in Brazil employ.

Coronet, Encyclopaedia Britannica Films, and McGraw-Hill co-operated with Michigan State University in the translation of films and in the production of 8mm single concept films, slide sets, flip charts, transparencies and many other devices.

Other accomplishments included many workshops and seminars for teachers and others; the production of a great number of low-cost educational materials; the translation of numerous films into Portuguese; the production of some original educational films; and, the publication, distribution and translation of a volume of literature on audiovisual education.

Even with this extensive program, providing complete training for the more than 65,000 teachers in the 600 national schools is very difficult. Over 400 teacher educators have been trained to return to their respective schools to carry out the instruction begun at the Center. In addition, many seminars and workshops outside the regular operation of the Center were operated to attempt to expand the use and understanding of audiovisual education.

The project received extensive U.S. assistance in the form of grants, scholarships from U.S. universities, and consultants. The early planners for the Center were supplied by the United States Overseas Mission (USOM) and the National Institute of Educational Studies (NIEP). The initial funding was provided by U.S. AID for equipment, planning, and the Michigan State University contract.

The Brazilian Government also supplied money, staff, and office space. When financial troubles began to plague the Center, the Brazilian Government provided assistance beyond the requirements of the U.S. AID
contract.

The Department of Audiovisual Instruction of the National Education Association, as well as several U.S. universities, supplied personnel to assist in the project. In addition to MSU, Iowa State, Penn State, Southern California, and Indiana University provided assistance.

Anisio Spinola Teixeira, one of the planners of the project, said in 1964:

The influence of this center goes well beyond the limits of the state of Sao Paulo. Thanks to the courses it carries out, the workshops and consultations it provides, and the production of didactic and technical materials it effects, it is today an institution at the service of Brazilian and Latin American education.2

The results of the U.S. investment in this project at Sao Paulo are encouraging. It would appear that our efforts to provide audiovisual education in Brazil have been extensive but meaningful.

Brazilian CCTV at Sao Paulo

In addition to the Audiovisual Center at Sao Paulo, a closed circuit television system was placed in operation at the University of Sao Paulo. The system was used primarily to telecast undergraduate courses to large numbers of students. Most of these courses were basic instruction or introductory classes. This system was initially funded by the Ford Foundation with a grant of 177,000 dollars. It was not associated with the Audiovisual Center of the University in any direct way, and was started later than the Center—in 1964.

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2Ibid., p. 322.
Brazilian Satellite for Educational Television

Like India, Brazil has a large rugged land mass that makes conventional methods of television and radio broadcast difficult and expensive. And, like India, Brazil has been negotiating recently with the United States for the use of a satellite, on an experimental basis, for educational television.

The Brazilian plan includes an overall design to upgrade teacher and student education, and to provide direct school broadcasts to over 150,000 schools and other receiving stations.³

The final decision to go ahead with a satellite project will probably depend on the resolution of the Indian satellite situation. The same problem of selecting a good system, which troubles India, affects Brazil. The conditions that are being considered in both countries are kindred; i.e., cost, effectiveness, technical support, spillover, location of stations, and so on. It seems likely that India, with much help from UNESCO, COMSAT, NASA, and other international and U.S. agencies, will be the first to select a plan and thus set the pace for countries such as Brazil.

Brazil will not have the problem of developing synchronous sound in several languages that India has, but may have more trouble with spillover into neighboring Latin American countries. Spillover is a crucial political concern to many developing countries. It is most difficult to control.

Finally, financial arrangements with the United States and other international organizations must be worked out.

³Tickton, "Instructional Technology," p. 104.
In both the Indian and Brazilian satellite programs the U.S. concern seems to be with setting a useful example for the several other developing countries that have expressed an interest in satellites for educational broadcasting. India and Brazil are, seemingly, the most appropriate countries for such satellite programs.

Educational Television in Colombia

Wilson Dizard points out that the ETV program in Colombia was the most extensive application of the medium of television to education in Latin America in the first half of the 1960's.\(^4\) It remains a significant example, not only in Latin America, but in all of the developing countries.

Colombian educators, with assistance from the United States and the Alliance for Progress, inaugurated a full-scale ETV operation in 1962. Colombian educators had been impressed with the results of the Italian educational television program—"Telescuola"—and wished to imitate it.

Experimentation in 1961 led to a full range of primary school television broadcasts on the national network in 1962. By 1965, more than 400,000 children were viewing classroom television throughout the country.

There were several important reasons why Colombia was particularly well suited for such an ambitious project. First, it was in dire need of an assist to its teaching capabilities as only an estimated 40 per cent of school age children could be accommodated in conventional

schools. Second, Colombia had a good national television network that covered over eighty-five per cent of the country. Third, local educators and broadcasters seemed to have a realistic notion of what ETV could and could not do. Finally, there were foreign agencies willing to make available money and personnel to aid an ETV undertaking in Colombia.

In 1965, a renewed and reorganized program was reaching 802 primary schools in six departments and the Distrito Especial. The programme was reaching over 250,000 students or about thirteen per cent of the total school age population of the country.\(^5\)

Of the many studies of the Colombian ETV project, few are critical of the educational results. The U.S. AID, the RAND corporation and others have examined and reported the project in detail. Three important reviews of the project are Carpenter's The Use of Technology to Upgrade Education in a Developing Country, Dordick's Educational Change for the Primary Schools of Colombia and Comstock's several volume study of the Peace Corps' support of Colombia ETV--The Peace Corps Educational (ETV) Project in Colombia.

Results of these studies were mixed but the general consensus is that the project has been good for education in Colombia. Carpenter found that the television system was comparable with traditional schools both in cost and effectiveness. Dordick felt that the system would have been more effective had the Colombian educational system been better equipped with a good foundation of qualified teachers and administrators. The Peace Corps studies dealt with the work of classroom teachers and

\(^5\)International Institute for Educational Planning, New Educational Media, p. 61
production techniques. In all cases, they found deficiencies and poor approaches to television utilization.

Final evaluations of the system by ETV staff members produced two major statements:

The results showed that the television students always performed as well as students in non-television classes; and, in three of the courses the television students had a significant advantage over the nontelevision students:...and, the objective evidence is that Colombian television instruction has never reduced learning and in a large proportion of the cases it has produced significantly increased learning for students and teachers alike.6

At the first suggestion of an ETV system for Colombia, the Ford Foundation dispatched a team to study the possibilities for the system and for Ford Foundation support. While the Ford report was positive for such an educational system, it recommended against direct funding by the Foundation. Later, it assumed an auxiliary role in the planning and development of the system.

The U.S. AID decided to support the system with a "one-shot" grant to be used for equipment (including 1500 television receivers). U.S. AID made it clear that there was to be no continuing support.7 The grant totaled 575,000 dollars.

Perhaps the largest contributor to the Colombian ETV system and its operation, was the U.S. Peace Corps. Eighty volunteers were originally sent to assist the local staff with production-related activities. There was no time restriction placed upon Peace Corps aid. In

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7Ibid., p. 54.
1963, volunteers began serving the system.

By 1966, with volunteer help, courses taught per week rose from 10 to 16, the number of teachers involved increased from 1000 to 8500, and the number of students in the project rose from 38,000 to 350,000—about one-fifth of the total elementary school enrollment. Subjects taught included mathematics, natural and social sciences, and language arts.

Colombian participation increased steadily during the project especially in production, installation and maintenance of equipment. Comstock reports that the attitudes toward the use of television for teaching remained positive throughout the program.

Peace Corps volunteers had some problems supporting the system. They complained of poor equipment installation and maintenance. There were additional problems with scheduling of telelessons and poor physical facilities for viewing the programs.

All in all, the investment in the Colombian ETV system by the United States was substantial. Manpower supplied by the Peace Corps and support of the volunteers in Colombia were the largest contributions that the U.S. Government made. These were significant in their impact. It is important to note that the Ford Foundation did not choose to become involved with this project.

The U.S. support of Colombian ETV has been substantial and evaluations of the project would indicate that it was at least moderately

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successful.

El Salvador Educational Television

El Salvador began an extensive school reform in 1968. The basic plan called for the incorporation of educational television on a large scale. Television was considered the most effective medium from the start for demographic and geographic reasons. Additionally, television was thought to be the most effective and least costly system for improving education in a country with its particular population density, social problems, and economic development needs.9

In February of 1969, a station near the capital city began transmitting telelessons to thirty-two seventh-grade classes.10

Initially telecasts were to be reviewed and appraised and later revised. These first broadcasts were also to provide production and teaching experience for the novice El Salvadorians. If the first lessons were successful, the programs would be greatly expanded.

By the second year, the television service was felt to be going well and the curriculum was expanded. Television, at that time, was extended to all seventh-grade classes which had receivers and to over thirty eighth-grade groups.

This system of sequential introduction of television was termed "Plan Basico" and included courses in three general areas: humanities, science and mathematics, and physical education, music and art. A second objective of the programs was a reform of teacher training to


10Tickton, "Instructional Technology," p. 98.
train and retrain in-class teachers.

Media production, curriculum development and teacher training were to take place at the central educational television studios. It was hoped that this central teacher training facility could both produce materials for ETV and train teachers in advanced teaching methods.

A new television station with a new fully equipped studio was in operation in 1972. The broadcasts were reaching over 600,000 seventh, eighth, and ninth graders. The broadcasting system was coupled with new teaching methods, a revised and improved curriculum, and better trained teachers.

Evaluation and revision of programs were continued throughout the first years of operation and were expected to be carried on regularly in succeeding years.

Graduates of the initial training at the studio became supervisors and teacher trainers. They used "micro-teaching" to improve and understand television teaching.

Overall results of the project to date are encouraging. Testing of the seventh and eighth grades in the program showed that substantial gains had been made in learning of the subjects offered. Tickton stated in 1972 that, at the end of the first year, test scores from the reformed classes were about twenty per cent higher than those of a sample of traditional classes. He noted that the television classes had lower dropout and failure rates than conventional classes. Further, he reported that teachers were in favor of television teaching; but, had admitted that the novelty had worn off. 11

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Of a total educational budget of twenty-five million dollars, El Salvador spends some two per cent on educational television. The cost of the system has been high, notwithstanding funds and technical assistance from U.S. AID, Japan, UNESCO and the United Kingdom.

While the U.S. AID contribution to the project does not seem to have been as large as the one to Colombia, it was substantial. No exact information is available on the size or nature of the assistance to El Salvador. Money spent on the project does, however, appear to have been well used, and the results are indicative of a good operation.

Educational Television in Guatemala

The Ministry of Education of Guatemala, in cooperation with the United States Information Service and Radio-Television Guatemala, a commercial station, is operating an educational television project. The television programs are teaching everything from basic literacy to college-level courses.

Literacy training is in the form of a series of eighty-five lessons telecast on weekdays on the commercial station three times a year.

"TeleAula" is a service for teachers providing daily telelectures on educational theory and new teaching methods. This service is beamed to students in Guatemalan teacher-training institutions. These programs are also being used for in-service training of the practicing teachers in the country. "TeleAula" has even become a compulsory subject for second year students in normal schools.

A third ETV series presented on the commercial station is "TeleU," a college-level lecture program prepared by the University of
This ETV project in Guatemala is an unusual case of U.S. support. The U.S. Information Service (USIS) has not, as a rule, offered direct assistance to an educational system. It is best known for giving books, programs and technical assistance to broadcasting stations. This project, however, is an example of actual support to an educational program.

Guatemalan Instructional Materials Center

In addition to developing an ETV series for the Guatemalan Ministry of Education, the University of San Carlos established and operates an Instructional Materials Center (IMC). Faced with ever increasing student enrollments and the so-called "knowledge explosion," the University considered and requested the IMC.

With a contract for developing the IMC with the University of San Carlos, the University of Pittsburgh received financial support from U.S. AID. The Guatemalan office of U.S. AID agreed to finance the project in 1968.

The project had two main objectives: 1) the professional staff of the San Carlos University would develop, prepare, produce and evaluate new instructional media and techniques; and, 2) the IMC was to develop an instructional media resources collection to be used by faculty and project staff for extensive curriculum development within the various departments of the University.

U.S. consultants from the University of Pittsburgh and elsewhere were sent to aid the project staff for revising and improving the teaching and learning effectiveness of instruction at the University of
San Carlos.

The project had many problems right from the start. There did not seem to be agreement on the overall objectives of the project among the faculty of San Carlos University. Along with the lack of consensus on the objectives, there was a pervasive lack of enthusiasm among the faculty members. The services of the IMC were seldom requested and there was not sufficient interest in the project to justify its continued existence. It was discontinued when it came time for the planned expansion of the IMC and additional funds were requested. There was simply insufficient faculty support to continue the project.

It now seems apparent that the University of San Carlos, when it requested the money from U.S. AID, had not really determined the need or interest in such a project. This is one of a few cases of complete failure of an educational project employing new technologies.

Honduras "Radioschool"

Initial interest in a school radio service for Honduras was generated by a priest who had been familiar with the educational radio program operated by Catholic priests in Colombia. He brought the possibilities of "radioschools" in Honduras to the attention of the Roman Catholic metropolitan archbishop. The Church in Honduras decided to attempt a radio school in their country; and, by 1962, the service had expanded from an initial seventeen schools with 306 students to 343 schools and an estimated enrollment of 7520 students.

The "radioschools" were organized in the various towns by the parish priests who also recruited the students and monitors (who oversaw the radio school broadcasts) and arranged for listening facilities.
Beginning in January each year, the radio lessons ran six days a week for six-month periods. While the radio lessons carried the main part of the instruction, the monitors presented certain supplementary materials and coordinated lessons. Materials for the in-class work were sent from Tegucigalpa the "radioschool" center.

Textbooks were used in the fundamental courses of literacy and mathematics. Exercises from these texts were carried out after the broadcasts. This activity was supervised by the monitor.

Individual lessons in non-academic subjects were prepared and presented by experts from outside the regular staff of Tegucigalpa. Testing was done at the end of term with tests prepared and sent out by the center. These test results determined if a student should pass to a second year of instruction or if he should be awarded a certificate of completion.

Most of the fundamental education courses were recorded and used repeatedly. Recorded tapes of previous broadcasts were kept at Tegucigalpa.

At Tegucigalpa were located the directors, the teaching department, the distribution department, the repair facility, and a headquarters staff. Two Peace Corps volunteers, a husband and wife team, were on the headquarters staff. The man, who had educational experience (secondary teaching) devoted most of his time to the distribution of supplementary materials to the local schools. His inadequate Spanish limited him to this type of work rather than teaching. His wife was a secretary and accountant, supervising the central office and keeping the books.
Schools were operated whenever and wherever there were sufficient students to make the service worthwhile. Coordinators went school to school doing much of the organizational work and checking on operations.

Local community support and ideas were always sought to improve the "radioschools" and Peace Corps volunteers in the villages worked with the radio service. They assisted students and the monitors in many ways, but never taught or monitored the "radioschools." For the most part, the volunteers bolstered the community interest in the program and handled some administrative problems.

Radio sets were purchased on a time plan at the lowest possible costs to the schools. The programs were aired on station HRVS, the national station, on rented time.

Results of the "radioschool" programs were encouraging. Enrollment remained high. Test scores were high, although there was some concern that the monitors may have helped the students do well on the tests.

There was always the problem of finances. There was not enough money to buy broadcast time except in the afternoon hours. This reduced the number of peasants who could listen. They were in the field at that time. There was also the careless handling of recorded programmes by the radio technicians resulting in poor sequence of lessons. There was also a lack of strong administrative support within the project which accounted for some of the problems of inadequate distribution of materials and poor program scheduling.

In addition, there were reception troubles. The national station was unable to provide full coverage of the nation. Cheap
radios, purchased at reduced cost, did not pick up the signal well, or were out of order from a lack of spare parts.

While initial interest in the project by church officials and local civil and commercial groups decreased, some support was received from U.S. AID, in the form of equipment and office material, and from the Peace Corps with additional manpower. The Federal Republic of Germany, through church contributions, provided for a new training center.

The overall impact of the programs of the "radioschool" has been difficult to assess. But, the IIEP study of the "radioschool" states: "The programme has had to operate under far too many handicaps for it to have given a reliable indication of this its success in literacy training." The IIEP study further states that the "radioschool" of Honduras should not be taken as an example of radio's ability to teach literacy.

Even though the financial support of the "radioschool" by the United States has been nominal, the Peace Corps investment in volunteer support has been substantial. It is possible that more U.S. assistance might have helped to alleviate some of the problems that caused the project to have only marginal educational results.

Jamaica's Television Literacy Education

Jamaica's initial radio and television literacy program was started in 1966. This was approximately fifteen years after the country had initiated experimental literacy classes. Various different methods

12International Institute for Educational Planning, New Educational Media, p. 110.
had been attempted to teach literacy from direct person-to-person instruction to large school classroom teaching. Nothing had worked well.

A closed-circuit television experiment for a small number of students was begun, only to be replaced by full-scale television broadcasting, in 1967. A central station in Kingston beamed the signal to a large part of the Island. The programs were aimed at the general population and to teachers in particular.

Testing the possibility of using radio and television to teach literacy had been carried on by the Literacy Section of the Social Development Commission from January to June of 1966. Both closed-circuit and simultaneous broadcasting had been employed in the teaching of reading skills.

Broadcasting equipment, technical arrangements, and direction was handled by the Jamaica Information Service. A Peace Corps volunteer and a part-time technical assistant acted as technical directors.

Broadcasting equipment was initially moved from one location to another for each broadcast. Each radio class had one audio speaker and one television set to use.

Instruction by "Look and Say" was the main method of teaching English, the main language of the Island. The project had as its main objectives reading, writing and phonetics as well as increasing the spoken vocabulary and bettering pronunciation. Useful and practical information on everyday life was also incorporated into the programs. Food, health, safety, hygiene, farming, decimalization and other useful topics were the subjects of the various lessons. Listeners were also informed on news events and social problems to assist them in becoming
better citizens.

Miriam Moulton, an official with the Literacy Service, reports that television and radio programs to date have only been nominally successful in literacy training. She notes the many problems involved in providing good and interesting programs that hold the attention of the students and motivate them to learn English.

Besides the mediocre programs, there are problems in maintaining the language that is learned and in reaching people in the back areas of the Island. The general educational quality of the in-class teachers has been low notwithstanding their enthusiasm.

There have been some technical problems at the central station in Kingston; but, these usually have been overcome.

Miss Moulton reports that the Peace Corps volunteers have been very helpful at the central station and in the village classrooms where the programs are received and discussed.

The cost of importing foreign training programs has prohibited Jamaica from using sometimes better radio and television lessons. Britain's CETO has helped to train the production and teaching staff. Additionally, scholarships have been provided by CETO for study in the United Kingdom for certain Literacy Service staff members.

U.S. support of this operation has been mostly in the form of Peace Corps volunteers working at the central station and in the receiving classrooms. However, several of the teaching and technical staffs have been trained in the United States.

The overall results of literacy training in Jamaica have not been as encouraging as desired. The population is increasing more rapid-
ly than the ability of the educational authorities to provide sufficient
glanguage training. Perhaps large-scale literacy training is one solution
but, eventually, improvements in the primary schools will be the only
solution. Literacy training by radio or television or any other method
can only be a stop-gap operation.

Mexico - Instructional Television at Monterrey

This most unusual application of advanced technology to educa-
tion began in the early 1960's. The University of Texas had been oper-
ating a closed-circuit microwave network offering many courses at the
graduate and undergraduate levels. The president of Monterrey Technical
Institute became very interested in the service and requested University
of Texas faculty members to come to Mexico and explain and demonstrate
the system. In 1961, an application to the Ford Foundation for funds to
allow several University of Texas staff members to remain on the Monterrey
Technical Institute campus to develop a television teaching program was
approved. In the following year, faculty members of the Institute went to
the University of Texas for practical experience with the television in-
struction program. At that time, they also dubbed Spanish onto University
of Texas telelessons for playback in Mexico. The Texas radio and televi-
sion experts at Monterrey, meanwhile, surveyed existing facilities and
television needs as well as faculty member opinion on ITV at the Mexican
institution.

Originally the plan had been to extend the Texas Educational
Microwave Project (TEMP) across the border from the southern terminus of
the system at San Antonio to Monterrey. The cost and legal problems with
such a venture caused a rethinking of the possibilities. Finally, a system of videotapes, to be aired on Monterrey's commercial television station and microwaved to the Institute, was selected. This permitted the use of existing Mexican equipment and television expertise. Of course, the Institute would still need closed circuit facilities to distribute telecasts to the various classrooms on the campus.

In 1963, the Ford Foundation approved a second grant to supply the equipment needed for the campus CCTV system. The three year grant was for the procurement of studio production equipment and the distribution system. It amounted to several hundred thousand dollars. The Ford Grant also covered the cost of producing the videotapes and other instructional materials, and of the dubbing into Spanish of University of Texas videotapes.

Many of the instructional materials produced for the Institute were also used for general adult viewing on the commercial station. This reuse of materials was very successful. Elementary school instructional programs were also produced and aired on the three Monterrey stations.

Many University of Texas videotaped lessons were dubbed into Spanish successfully, but without "lip sync." The dubbing system was simple but very effective. In some cases Spanish titles or names were inseted over the English ones; other times this was not done. Special Spanish texts were supplied to accompany some of the lessons.

A second phase of the instructional television for the city of Monterrey was the addition of programs produced in Spanish for elementary schools. These elementary school lessons were offered to children in the Monterrey city schools.
A third phase of Monterrey ITV was the introduction of educational television courses at the campus of the Monterrey Technical Institute. Finally, adult education programs to be telecast on Monterrey's stations were developed.

Texas personnel continued on the project through its initial phases offering assistance in planning operation, and providing special training workshops for cameramen, graphic artists and production workers.

In addition to all of the activities that were assigned to the facility, it was to serve as a demonstration model to other Latin American countries. A review panel composed of members from many Latin American countries was to meet on the Monterrey campus and evaluate its activities and results and then take back to the various countries information on instructional television.

The project at Monterrey seems to have been successful in producing television materials. Also the dubbing of Spanish onto the Texas telelessons was reported very worthwhile. These circumstances probably account for the success of this project. First, the Monterrey Technical Institute had the cooperation of experienced faculty personnel from the University of Texas. Second, it was able to utilize the facilities of the three commercial stations at Monterrey with their associated personnel. Third, it received two grants from the Ford Foundation. The first grant got the project onto the planning board, and the second paid for almost all the necessary equipment and services.

Grants from the Ford Foundation were generous and necessary for the Monterrey project. While firm evaluation results are not evident, on the surface it would appear that the operations of the instructional tele-
vision service were valuable.

Organization of American States' Educational Television Training Centers

The Organization of American States (OAS) has recently developed plans for a series of four centers to train Latin American educators in the uses of educational television. These are to be in Argentina, Chile, Colombia and Mexico.

A contract has recently been given to Florida State University to develop and operate several intensive workshops on their campus on instructional technology for educators from Brazil and Colombia.

The Ford Foundation has also supplied money for small projects in Latin America. It funded a closed-circuit television system, similar to the one in Monterrey, for the University of Buenos Aires. It also granted money for a language laboratory for the National Autonomous University of Mexico. In addition, it supplied technical assistance for Chile's Center for Educational Improvement in the area of educational television.

The Ford Foundation, the Peace Corps and U.S. AID all have made significant contributions to the educational technology programs of Latin America. Interestingly, most of these programs receiving assistance were not started until the late 1960's and 1970's. The Ford Foundation did not really get into Latin American projects until the late 1960's and U.S. AID and the Peace Corps picked up the tempo of support at about the same time. This reflects a renewed interest in Latin America and the educational systems in the countries that comprise this developing area.

One cannot predict, of course, if support to this area will continue in the future. At the moment, however, it is on-going. The variety
of projects that the United States has aided is great and seems to reflect a willingness to explore many different types of technologies for education.

Assistance from the United States that is funneled through the OAS and the Alliance for Progress is difficult, if not impossible, to assess. However, much U.S. money does go to support activities of these organizations and some must filter down to media projects. The examples listed in this study probably represent the major efforts that U.S. agencies have supported in Latin America. Projects in the Canal Zone and the Virgin Islands have not been considered. They, like Samoa, receive funds but are U.S. territories and thus are not really a concern of this study.

In sum, assistance to Latin American countries has been significant both in amount and impact. It is probable that U.S. aid to educational projects in the area is only in its infancy.
CHAPTER VIII

SUPPORT OF EDUCATIONAL TECHNOLOGY IN THE DEVELOPING COUNTRIES BY OTHER DEVELOPED COUNTRIES

While the United States is certainly the leader in providing aid to the educational projects of developing countries, other advanced nations also contribute money, personnel and other kinds of assistance to the Third World lands. Most of such aid goes to the emerging nations of Africa. The reasons for this interest in African development have been previously discussed. (See pp. 103-106.) In brief, it results from the colonial ties that many European nations had with African lands.

The developed nations of Europe have only recently begun to offer aid to the developing countries. Some, not too many years ago, might themselves have been labeled "developing." West Germany, for example, in a very few years went from the status of a receiver nation to that of donor nation. Now, it appears to be on the threshold of becoming a major donor country. Much of its interest and ability to assist newly developing countries comes from its own development experience.

French Support

France is more active in assisting projects that involve educational technology than is Great Britain. France seems to be vitally interested in providing both extensive capital and specialized personnel to
the new nations of West Africa and to the Malagasy Republic. Most of these nations had been recent French-speaking colonies of France. A large part of the indirect help offered to these countries has been in the form of films, television programs produced for French educational television, and audiovisual materials produced especially for developing countries. These educational aids are sold at a low price, given free of charge, or loaned.

The main producer of programs for export to the developing countries of West Africa was OCORA (L'Office de Coopération Radiophonique). In cooperation with the Ministry of Education and ORTF (L'Office de Radio-diffusion-Télévision Française), the French national broadcasting network, OCORA developed and distributed programs that were often very Francophile. However, as Dizard points out, this was a useful first step toward the eventual local creation of educational television in the former French colonies.

Educational television in Niger is an example of the type of involvement that France had with her former African colonies. In 1960, the French National Commission for UNESCO submitted a proposal titled the "Berger Project" to UNESCO. It recommended a plan for the extensive use of radio and television for education in Niger. The initial experiment was carried out with the help of G.L. Solères, a well-known French adult

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1 The French Government also engages in an operation similar to that of the USIA through its own agency: OCORA. Britain and West Germany have like organizations: the British Information Service and Deutsche Welle, respectively.

educator in 1964 and 1965. By 1965, the government of Niger with the aid of a sizable French financial grant began a large-scale educational broadcast project. Additionally, France sent technical experts to assist the personnel assigned to the project by the government. Teacher-training, language materials and management advise were also provided by France.

An extensive research study accompanied the introduction of educational television. The results of evaluations indicate that the teaching of students by television is generally favorable compared with instruction by the traditional methods. The real effectiveness of the project has been the quantitative impact of the method. Many schools received instruction in subjects previously neglected owing to the lack of teachers or textbooks.

Radiovision in Niger has also been one of the educational projects to receive French aid. Not only was the use of radiovision suggested and initially implemented by a Frenchman, G.L. Solères, but the project was the recipient of a large French financial grant and the assistance of a French staff.

Ten villages in Niger were the original site of the radiovision experiment. Later there were 197 centers using radiovision to teach spoken and written French and other "development" type subjects such as agriculture, health, and business. This use of radio for literacy is significant since the French language is necessary for out-landers and city people alike who need French to achieve social and economic mobility. Emphasis on French to achieve national cohesion is also a part of the program. However, the vernacular of the various local areas is also taught
to encourage the retention of indigenous cultures and life-styles.³

In the French plan, Niger is seen as a model for the other developing countries in Africa. This use of model projects is typical of both the United States and France, which often single out a nation or activity for extensive assistance to demonstrate what technology can do for education and overall development.

Ivory Coast, also a former French colony, has been the site of an important educational television project. In 1961, the government of the Ivory Coast, with French financial help and staff, initiated an experimental project for teaching literacy by television.⁴

This use of television for teaching was initially a worker-training program in Abidjan. Later it was extended to include the entire country. The original objective to train 1000 literate workers was quickly met. By 1970, the program was extended to areas of "development" education, offering direct formal type instruction.

An extensive educational plan to be implemented over many years based on television now, in 1972, is being carried out. New buildings, ITV production facilities, and an expanded television service is being financed by a loan from the World Bank.

These three cases of educational technology in the developing countries of Africa are, more or less, the major areas of French concern. Certainly, they are representative of French assistance. They are in

³The United States has also assisted this case in a modest way compared to the French commitment. More on the U.S. role in radiovision in Niger is found in the chapter on Africa, pp. 80-83.

⁴The United States also assisted the Ivory Coast educational television project. Additional information on the project and the U.S. role is found on pages 70-72.
former African colonies. They are strongly French in theory and practice. And they are used as models of what technology can do. The commitments to these projects by the French have been impressive in terms of money, personnel and technical assistance. France has demonstrated by these cases that she is willing to take an active role in the educational development of African nations, especially her former colonies. Aid of a similar sort to Latin American or Asian countries is almost nil.

As Coombs notes:

Building on past accomplishments, France seems well on the way to consolidating a 'cultural empire'--based now on voluntary membership--which may well prove more viable and profitable than its two lost political empires.\(^5\)

This new "cultural empire," in a sense, takes up where the last political one ended. Based on continuing colonial ties the new empire is one based on ideas rather than on economic or military force.

If the aid pattern of the 1960's continues, France will probably remain quite selective in her support of nations and projects, choosing to help those countries that are French-speaking.

**Educational Technology in the Developing Countries Assisted by Great Britain**

British financial aid to educational development in the new nations largely through agencies other than the council [the British Council is much like the U.S. State Department] has concentrated—in contrast to French and American practice—on capital grants for new higher education facilities, mainly in the former British colonies.\(^6\)

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\(^5\)Coombs, *Fourth Dimension*, p. 80.

\(^6\)Ibid., p. 81.
Specific cases of direct British assistance to projects using educational technology are hard to find. However, Britain does take an active role in one crucial aspect of educational technology for the developing nations. Britain has become a center for training educators and technicians from the developing lands in the use of educational radio and television.

The British government through grants and scholarships has provided study at the BBC and other television organizations. In 1964, the Thomson Foundation, a philanthropic organization, opened a training institute in Glasgow, Scotland, for the instruction of overseas broadcasters. Thomson Enterprises is the largest British investor in commercial television projects in the world. In addition to making full scholarships available to foreign broadcasters, the foundation also sent British experts to foreign television stations. In this way, the Thomson Foundation supported both commercial and educational broadcasting in the new nations.

Of course, the major operation of Great Britain in the area of training foreign educational broadcasters has been CEDO, the Center for Educational Development Overseas, formerly titled CETO, the Center for Educational Television Overseas. CEDO began training foreign educational broadcasters in 1963 supported by a grant from the Ford Foundation and several British foundations. Like the Thomson institute, it offered study tours funded by special grants.

CEDO also served as a clearinghouse for foreign students, assigning them to other training facilities and schools or on-the-job assignments. Asian, African and West Indian broadcasters and educators from over twenty nations have attended the programs offered by CEDO.
In addition to this direct instruction in educational television techniques, CEDO developed and distributed educational television "program kits" that were designed to assist local directors and producers in preparing programs. They covered a wide range of academic and vocational subjects.

CEDO was well-known throughout the world for its fine training and excellent educational television kits. It was unique and highly successful, and can share credit for many improved educational television services in the developing nations. It has been active in many literacy campaigns as a correlating function of its television instruction. In Jamaica, for example, most of the key personnel involved in the television literacy program were trained in London by CEDO. Continuing its training programs, Britain, in 1970, established the OVAC (the Overseas Visual Aids Centre) in London for the training of audiovisual experts for the developing countries.

However, except for this impressive and successful training program, Britain does little for the educational systems of the new nations. In absolute terms and as a percentage of total aid, considering the importance which the British generally attach to education, there is very little educational aid. It has been estimated that less than six per cent of its total aid effort goes for education and training in the developing countries. Both France and the United States give much more.7

Aside from some help for the El Salvador educational television service, Britain has given little assistance to the Latin American na-

7Coombs, Fourth Dimension, p. 81.
tions. There are few, if any, cases of this sort of aid for Asia. Most cases of British support for educational technology in the new nations are found in former colonial holdings in Africa. Nigeria, for example, has received some direct British help. In addition to technical and planning assistance, money has been supplied to Nigeria's educational television service. While the United States has been the major contributor to Nigerian educational television, some of the early groundwork had been laid out by Britain. British commercial television companies built and operated the Nigerian television stations long before the United States became involved. There are still close ties between two British commercial television companies—Pye, Ltd. and Granada Television Ltd.—and Nigerian state controlled television.

British experts also assisted the Nigerians in initial planning for educational television. Even though there are few cases of obvious British aid to such projects, underlying much of the professional abilities of broadcasting and educational staffs is British training at CEDO, the Thomson Institute or the OVAC. The effect that British aid has had on the projects is difficult to identify and evaluate. The approach that Britain has chosen to employ in assisting education in the developing countries is useful but sometimes meagre.

The Soviet Union's Activities in the Developing Countries' Educational Technology Projects

From 1953 to 1963, Soviet foreign cultural relations began to take on a pattern not unlike that of Western nations. The Soviet Union began to assume an active role in the sphere of world cultural exchange. VOKS, the earlier state cultural affairs organization, was replaced with
The State Committee for Cultural Relations with Foreign Countries. This new State Committee acted as a clearinghouse and central headquarters for all external exchange activities. The State Committee for Cultural Relations with Foreign Countries of the Soviet Union is similar in design and function to the U.S. State Department's Bureau of Educational and Cultural Affairs—the CU.

The State Committee is the key to all Soviet foreign educational aid programs. It is empowered to secure full cooperation from all ministries, academies, institutes, and non-government organizations concerned with educational, scientific and cultural matters. It also has full ministerial status and powers.

Contrary to popular opinion, the Soviet Union does not maintain or support massive educational programs in the developing countries. While there is some evidence of direct Soviet aid to several educational projects in India, Afghanistan and Mali, there is no aid given similar to the huge U.S. efforts in Nigeria, for example. Perhaps the largest undertaking to date has been the building and staffing of an advanced technical training institute in India. There seem to be no obvious cases of support of educational technology, except some electrical devices used with conventional teaching programs in Afghanistan and Mali.

Another popular misconception about the foreign activities of the Soviet Union is that it tries to influence mass opinion on a large scale and directly by the various media. Even though it does maintain an extensive foreign broadcasting service and film program (especially in Africa), their contents are mostly of a cultural or literary nature. Few programs or films deal with ideology.
After Stalin's death, the Soviet Union became a member of UNESCO and started work in the organization in earnest and as a member of that organization has given financial aid as well.

While the Soviet Union's interest in the developing countries has increased over the last few years, it has still not assumed a leading role in the support of the educational systems of these nations. Most of its assistance has been of a technical sort and little else. It has almost completely ignored education and has not initiated any support for educational technology in the new nations.

**West German Support**

West German support of educational development in the new nations is fast becoming a major enterprise. While its aid has been considerably smaller than that of France, Britain or the United States, it has been increasing steadily and purposefully over the past few years.

For the most part, technical assistance as well as education has been handled by agencies outside the foreign office and has been supplemented greatly by private organizations.

Several of the projects that have received U.S. assistance have also been supported by the Federal Republic. For example, TELESTAR's educational radio and television project of Zaire received over $1,000,000.00 from the Republic. The technical assistance grant to Zaire was more than the U.S. financial contribution and certainly provided the nucleus for money support of the service. TELESTAR has been a rather large project and, in the future, may be a primary educational operation of Zaire.
Another African country receiving aid for an educational technology project is Ethiopia. The educational television service is utilizing German technical assistance.

Interestingly, much of the German aid to African countries does not go to former colonies. This is true, at least, in the field of educational technology.

Germany has also been active in areas outside of Africa. The Delhi school broadcast service, which had been supported by Ford Foundation and other U.S. funds, came under the management of Germany. Television broadcasting of the Delhi schools had not been particularly successful and Germany suggested and initiated the shift from purely educational broadcasting to entertainment and educational television. Television was to remain an educational service as only part of the overall plan of the Delhi television service. Germany still has much to do with the operation and support of the service.

In Latin America, the Federal Republic has been supportive of the Honduras "radioschool." This aid came from church organizations and provided the funds for a training center for the "radioschools'" staff and teachers. In this case as well, the United States and West Germany both gave assistance.

German aid has been unusual in several ways. First, it is expanding in scope and magnitude. Second, it is not confined to former African or other colonies as is the case with other developed European nations. Third, it often parallels and complements U.S. efforts. It appears, at least on the surface, that German and U.S. activities are almost joint efforts.
Educational Technology in the Developing Countries Assisted by Japan

Japan has been a surprising new entrant into the international field of educational technology. It has initiated an extensive development plan for her Asian neighbors as well as other developing countries. Their major effort, to date, has been associated with export sales of television and radio equipment. Japan has been offering to set up a country's educational television facilities as a part of a "package deal." This deal includes the cost of equipment, technical assistance, managerial aid, and pedagogical designs. This operation has a two-fold purpose: it makes Japanese radio and television equipment more competitive with other developed nations' materials, and, it affords Japan a chance to build a cultural base abroad. There is no question that this is also an attempt to enter the select group of major donor nations. Japan seems to be anxious to become a member of the international and influential set of nations that can export technical and cultural services and products.

While Southeast Asia has been the main target of Japanese educational development efforts, Latin America has received some Japanese assistance. At least, there have been some offers of assistance. In El Salvador, in 1963, for example, the Japanese offered educational television assistance and a long-term loan to the Ministry of Education of El Salvador. This aid and loan were dependent on an agreement to purchase Japanese equipment for the television service. As it turned out, El Salvador approved another plan and did not accept the Japanese offer. However, Japan did give the country some money to go on with its massive educational television program. It also supplied planning assistance.
Even though most of Japan's aid to the educational projects of the developing countries has been in the form of "package deals" tied to commercial equipment sales, there have been a few other programs. NHK (Nippon Hoso Kyokai), for example, has been quite active in the training of foreign, especially Asian, broadcasters. The national network started an educational television training course for foreign broadcasters in 1962. NHK's Central Training Institute has operated these courses on educational television theory and practice primarily as a goodwill effort and an attempt to generate an interest in educational television in Asia.

Japan does appear to be willing to assist the educational efforts of developing countries even more than it has. Commercial interests alone do not explain the interest and extent of aid to date. Part of Japan's master plan for development is expanding foreign relations. Some of Japan's domestic experience with television and radio in education can be of great help to the developing countries which are trying to bring about rapid mass education through media. Japan has had much success with radio and television education domestically and could surely offer insights into good uses of media for schooling. NHK has been very active in researching educational methods and television; it has become a major source for media and education theory and practice. Japan's educational development experience, if nothing else, could serve as a model for other less advanced nations.

Other Developed Countries' Support of Educational Technology in the Less Advanced Nations

Australia, like Japan, can offer a model for the successful application of media to education on a large scale. Faced with a very
large land mass and a widely scattered population, Australia turned to the use of radio for education. Using radio and later television for formal and correspondence education, the country overcame some of the problems of trying to establish a universal educational system in so large a land. Some of this experience has been exported to the advancing nations of the South Pacific which are thinking of the use of media for education.

Other countries in Asia have also benefited directly and indirectly from Australia's interest in mass media education.

Australia made a direct gift of radio receivers to Thailand's educational radio service as well as providing technical and managerial help. The Philippines have also received financial and technical support from Australia. The Australian Broadcasting Company has offered expert assistance to many nations in Asia and Africa.

New Zealand, too, has been actively supporting several media projects. With Australia, it has given money and assigned staff members to the Malawi Radio Correspondence operation; and, it has offered technical assistance to several other African nations that are developing radio and television correspondence programs. Much of this assistance has been channeled through Commonwealth arrangements with former colonies.

Also in some of these Commonwealth agreements, Canada has supplied technical assistance. Her own experience with radio forums has been useful to many of the developing nations. India and other countries have called on Canadian experts in radio education to assist them in initiating and maintaining similar services.
These Commonwealth nations and some of the other developed nations have had extensive experience with educational radio and television and have not only been models for the new nations, but have offered expert help. It is likely that they will assume even greater roles in this field as many of the developing nations are turning to radio and television for formal and correspondence type education.

There is one other way in which all of the advanced nations aid the educational projects of the less advanced nations. They all belong to and support UNESCO. UNESCO has been supportive of and the initiator for many educational technology projects.

The reasons why these nations have become involved in this kind of foreign aid are many and varied. They wish to sell technical equipment, or they want to retain ties with former colonial lands, or they want to compete in the international influence arena, or they have quite unselfish motives in wishing to help new nations develop.

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8 The role UNESCO plays in the field of technology for educational development is outlined in Chapter IV, pp. 57-60.
CHAPTER IX

SUMMARY, ANALYSIS AND CONCLUSION

Reporting

The cases in this study do not represent all of the actual instances of U.S. support to educational technology projects in the developing countries. The fact that reporting of activities is so poor is one clear conclusion of this study. Perhaps, as Coombs has noted, agencies, especially those in the government, are reluctant to disclose their true activities or support for various reasons.

Nor, in most cases, would one find explicit legislative authorization of the international activities of these agencies. The tide of international involvement has swept too fast to permit suitable legislative and budget arrangements. And, no doubt many agencies, anxious to maintain their international dimension, have not wished to raise the issue with Congress, lest they be told to discontinue their foreign activities. ¹

Without adequate reporting of aid projects by government agencies, as Coombs' statement suggests, a research study of educational support activities is limited. It is immediately obvious from a glance at the table on U.S. organizations giving support to educational technology projects in this study that federal agencies are the main participants in this area.

¹Coombs, Fourth Dimension, p. 64.
<table>
<thead>
<tr>
<th>U.S. AID</th>
<th>Africa</th>
<th>Asia</th>
<th>Latin America</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>7</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>FORD FOUNDATION</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>PEACE CORPS</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>U.S. GOVERNMENT</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(Agency Unknown)</td>
<td>2</td>
<td>4</td>
<td>-</td>
<td>6</td>
</tr>
</tbody>
</table>

U.S. AID heads the list of U.S. organizations giving assistance to these projects. It was involved in twenty-five of the projects reported. The Ford Foundation was active in eighteen cases; and, the U.S. Peace Corps assisted ten recorded projects. Unidentified U.S. government aid was also given to six projects.

The Ford Foundation's reporting procedures are excellent. Annually, it distributes a comprehensive report on all domestic and foreign projects. Included in every report since 1954 are descriptions and cost figures on educational and other kinds of projects in developing countries.

Other cases of U.S. support have not been reported or located. However, most important cases of federal and private activities come to the attention of observers who eventually report these enterprises.

Data on projects, unfortunately, are not always complete. Several projects did not indicate starting dates, for example, while others did not specify the kind of education that was the objective of their efforts. This latter consideration often had to be inferred. Case reports are not uniform in their reporting procedures and much informa-
tion is often left out. Too, the descriptions of activities are seldom sufficient to give all the needed data.

This lack of complete data hampers a research study of this sort; yet, it has provided a basis for making some general observations on U.S. involvement. Additionally, the large body of knowledge in the field, as seen in the numerous writings, can be used to draw some conclusion about the U.S. role in the field.

U.S. AID, the Peace Corps, the State Department and other government agencies play such an active role in the area of international educational relations that their activities should be adequately reported. This is certainly true, if, as some educators and government officials have indicated, these actions represent a function of U.S. foreign policy. In addition to providing a better understanding of this aspect of foreign relations, more effective reporting procedures would also contribute to a better understanding of the effectiveness of such activities, and possibly provide the basis for improved assistance programs.

Planning

One general criticism of U.S. support activities that is obvious from both the individual case studies and expert commentary is the inadequacy of long run planning.

Evidence that the United States has not encouraged or insisted on necessary planning in educational projects derives, in the main, from documented cases of project failures or poor results.

Commenting on the IIEP case studies, many of which involved U.S. assistance, Philip Coombs had this to say:
It turned out that most of these experiments are small scale and at best can have only a fringe effect. Most are being superimposed upon the previous pattern rather than integrated into new and more efficient learning systems. Most have been 'ad hoc,' with little careful planning in advance, careful evaluation in process, and reporting of results in a scientific manner.²

His criticism of earlier attempts have not dampened his enthusiasm for new improved efforts in the field. He has only cautioned against reusing the previous unsuccessful pattern, and has called for more considered and innovative approaches.

He is certainly correct in his observation that media technologies have, for the most part been simply added on to existing educational systems. Of the cases reported in this dissertation most relied on introducing media to traditional schooling institutions. The following table listing the types of educational activity supported bears out this assertion.

### TABLE 2

**TYPES OF EDUCATIONAL ACTIVITY SUPPORTED**

<table>
<thead>
<tr>
<th></th>
<th>Africa</th>
<th>Asia</th>
<th>Latin America</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Instruction</td>
<td>7</td>
<td>2</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Teacher Training</td>
<td>11</td>
<td>3</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Secondary School</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Primary School</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Enrichment</td>
<td>9</td>
<td>4</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Development</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Literacy</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Vocational</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

Clifton Chadwick, researcher at Florida State University, has reinforced this observation in his study, *Educational Technology in International Development Education*:

But a review of current and past efforts shows most projects have been ad hoc additions to existing systems with little planning and integration, disturbingly poor evaluation procedures and minimal effects. The only clear finding is that these projects can raise the costs of education.

Sidney Tickton, President of the Academy for Educational Development, has also noted the inadequate planning involved with typical educational technology projects.

Media have simply been added on to existing educational systems. What has been publicized as an exciting and productive experiment frequently turns out to be what one long-time observer calls another 'going-to'; a project that is going-to accomplish great educational change if it proves out, if it is favored by political and educational forces.

Peter Hopkinson, writing for UNESCO, has joined the general criticism of past planning of the application of technology to education. In one of its popular papers on mass communications it has this to say:

But although the idea of using communication for development and educational purposes has gained general acceptance, the media have not yet been integrated into overall development programming and given the structures of expansion which would allow them to play their full role. While vast sums of money have been spent on ambitious and sometimes unrealistic equipment and plans, the developing countries are still struggling to define the infrastructure of nation-wide communications in terms of individual and development-oriented needs.

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3Clifton Chadwick, *Educational Technology in International Development Education* (Tallahassee, Fla.: Florida State University, 1970), p. 44.

4Tickton, "Instructional Technology," p. 34.

The fact that educational planning has not been, for the most part, successfully integrated into overall development planning is a serious problem. One of the generally accepted roles that technology should improve and expand educational activities to promote the social, economic and cultural development of nations is not being fulfilled.

In addition to this major deficiency in approach to development, the omission of adequate planning has caused many individual projects to fall short of expected or desired results.

Many projects, discussed in this study, lacked initial planning for elements in the environment that later caused these activities to develop unsurmountable difficulties. For example, the absence of necessary electrical power or fixtures in facilities used in projects limited the range and scope of several enterprises. This was especially obvious in African nations such as Nigeria, Malawi, Zambia and Zaire.

Inadequate physical facilities plague almost every developing country and can have deleterious effects on projects that usually require somewhat elaborate accomodations. This particular aspect of the planning process can be evaluated and corrected with little difficulty.

Another problem that has been a result of mediocre planning is ambivalence or hostility on the part of the recipient populations. If the peoples of developing countries can not or will not accept new media or educational methods, projects that employ them are likely to fail. Proper investigation of the attitudes and probably responses to the introduction of new, often alien devices and procedures, must precede the selection of technologies and methods.

The application of the most effective medium is, perhaps, the
most important consideration of the planning procedure. Too, often, the medium selected is not the best suited for the type of educational activity being developed or supported. For various reasons television has been the medium most often applied to education. In the cases in this study, television was employed in projects as many times as all other media combined. The following table indicates twenty-eight cases of the medium of television being used for education compared to twelve for radio and nine for other types of audiovisual devices. This emphasis on television is not limited to any particular area of the world. In each region examined, television was the primary new technology in use.

**TABLE 3**

**SPECIFIC MEDIA TYPES SUPPORTED BY THE UNITED STATES IN THE DEVELOPING COUNTRIES**

<table>
<thead>
<tr>
<th></th>
<th>Africa</th>
<th>Asia</th>
<th>Latin America</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>12</td>
<td>6</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Radio</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Film</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Audiovisuals</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Programed Instruction</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Language Laboratories</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Satellites</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

This emphasis on the medium of television that has characterized past support of educational projects has caused some difficulties and may have resulted in only nominal results for such projects.
Wilson Dizard, a prominent writer in the area of educational television, has indicated that the United States has been the "leading nation in providing both ideas and material assistance for ETV efforts in developing countries." He has also noted that the United States has stressed using television as a tool of constructive social change in those nations. He contended that the U.S. experiences in Colombia and Nigeria, two of the largest recipients of aid, have given both the developed and less developed nations some lessons in the medium. Educational television must be adapted to local conditions. This is part of the reason there were significant setbacks in both programs. Dizard has concluded that the United States has profited from its mistakes and will not consider television as a panacea for the problems of the new nations. His most important observation was:

Educational television is no cure-all for the underdeveloped world's problems. Imposed without proper preparation, ETV can have the undesirable effect of enshrining mediocre teaching under a shiny symbol of technological progress.

In fact, judging from the cases examined in this study, the less elaborate and expensive media approaches such as audiovisual centers for teaching simple methods and the use of inexpensive and available devices and the use of radio for education appear to be the most successful applications of technology to education. Radio by the 1960's had become more or less widespread in most developing countries and receivers had declined drastically in price. These concurrent developments had the effect of making radio a very effective and less expensive medium for large scale

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7 Ibid., p. 251.
application to education. Thailand, Honduras and Ethiopia are only a few of the countries that have successfully used radio to expand and improve education.

Sierra Leone and Uganda utilized audiovisual centers to train teachers in the use of new devices that already are found in these countries. Commercial radio broadcasts, inexpensive tape recorders, slides and other audiovisual materials and machines were employed to introduce new media and methods to teachers. While this approach is less ambitious than a nation wide educational television system, it may, in the long run, be more effective in improving education.

Actually, the trend has been, in the late 1960's and early 1970's to stress less sophisticated and more economical media. The following tables showing beginning project dates and media types supports this assertion.

**TABLE 4**

EDUCATIONAL PROJECTS RECEIVING U.S. ASSISTANCE
BY MEDIUM TYPE, 1950-1979 - AFRICA

<table>
<thead>
<tr>
<th>Year</th>
<th>TV</th>
<th>Radio</th>
<th>Film</th>
<th>PI</th>
<th>Language Laboratories</th>
<th>AV Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950's</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>-</td>
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</tr>
<tr>
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<td>-</td>
<td>-</td>
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<tr>
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<tr>
<td>1963</td>
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<tr>
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<td>-</td>
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<td>1</td>
<td>1</td>
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</tr>
<tr>
<td>1967</td>
<td>-</td>
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<tr>
<td>1970</td>
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<tr>
<td>Year</td>
<td>TV</td>
<td>Radio</td>
<td>Film</td>
<td>PI</td>
<td>Language Laboratories</td>
<td>AV Devices</td>
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<tr>
<td>1963</td>
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<td>1964</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>TV</th>
<th>Radio</th>
<th>Film</th>
<th>PI</th>
<th>Language Laboratories</th>
<th>AV Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950's</td>
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<td>5</td>
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</tr>
</tbody>
</table>

Generally, projects using television were initiated in the early and mid-1960's; by the late 1960's new cases usually involved media such as audiovisual centers, language laboratories and PI. This trend appears to reflect an interest in smaller and more specific types of activities rather than large nation wide educational television programs that
characterized the first part of the decade.

**Policy**

Richard Meirer developed a thesis that has much importance for evaluating the activities that developed nations carry on in this field. He observed that the effects of the use of educational media, which are donated or aided by advanced nations, will be a direct result of the intentions of donor nations. That is to say that the educational theories and practices of the donor nations will be reflected in the end results of the educational projects. He also made the point that whoever takes the planning role will have the greatest impact on the final structure and operation of a media system. He argued that technology has great potential for altering and improving education; but, it must be primarily designed and implemented by the recipient nations. This insures that the developing countries can retain their own particular approach to education.  

Wilson Dizard added a few comments on the so-called "gap" between what he termed "our own cultural obtuseness" and the desire of less advanced nations to develop rapidly. What the United States has usually taken as given preconditions for development may only be reflections of American values and biases. Developing nations question our motives in talking about the long hard pull to development and they are skeptical about transporting the West's historical experience to their current reality.

---


He said that it does not follow that the developing countries should accept the general forms of Western education. These forms may, in fact, limit development.

Another matter that relates to Dizard's concern about Western influence is that countries in the Third World are forced, by economics and the general predominance of Western technology, to rely excessively on foreign produced media content which is alien to their traditional values and cultures. Possibly, the greatest impact on these traditional values and cultures is resultant from modifications to education. Educational systems are always charged with the responsibility of passing on traditions and culture.

The fact that communications media and educational theory are largely concentrated in the hands of the developed nations affects the role of the media in promoting education and international understanding. Currently, communication is a "one-way street" from the advanced to the less advanced nations.

UNESCO's Mass Media in Society: The Need of Research also supported this position by stating:

Production of mass media materials, however, is highly concentrated. The initiative usually lies with the major powers, with those who have money and know-how. But these powers are often reluctant to open doors unless they can control the flow of information so that, not surprisingly, the flow is usually one-way. On the whole, the major powers have not shown themselves ready or willing to face up to the consequences of the two-way system. We are all willing to influence others, but not many are willing to be influenced by others. Researchers tend to dwell on potential, optimum educational use, untold benefits and overall improvements. They rarely mention exploitation and appear reluctant to accept that some people may react to educational
efforts as though they were part of commercial or a wider ideological offensive.10

The paper went on to give additional information on the role of the advanced nations in communications research. Research has particular importance in the application of educational media for successful development.

Returning to the question of the imbalance or one-sidedness in mass communication research in the developed countries, this is not unconnected to the fact that the organizational structure of media research often precludes the asking of searching questions. Not surprisingly, media institutions, like other institutions, are not likely to support inquiries which may question their basic assumptions and their vested interests. Research results (or the absence of inadequacy of them) have frequently been used by media practitioners as an argument against change, and to defend the status quo and occasionally to absolve the policy and decision makers from their responsibilities with regard to the effects of their products.11

John Vaizcy, the noted British expert in the field of educational development, suggested that much of the activity in education for development can be cost-raising and inappropriate for less advanced nations.

Modern technology, from the television to the computer, is at best no cheaper than "conventional" techniques and often more expensive. Since skill and capital are both scarce in the developing nations, the new techniques are the opposite of those that the factor-endowments of the developing nations would indicate as desirable. This is part of a wider problem; that developing nations (generally speaking) adopt new techniques from the West that are inappropriate to their factor-endowments, and there seem to be insuperable practical obstacles as well as some theoretical objections to the adoption of autono-

11Ibid., p. 10.
mous technologies that use more capital and skill and less labor.\textsuperscript{12}

The case studies in this dissertation bear out the fact that the United States, in many instances determined the character of the projects using educational technology. The type of aid offered, the preconditions for assistance, and the project requirements, all factors in the U.S. involvement in projects, acted as limitations on the projects. From the following table listing the various ways the United States assisted the educational projects discussed in this study it is apparent that the primary method of supporting projects was supplying funds. The second prevalent method of support took the form of assigning personnel to projects.

\begin{table}
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
 & Africa & Asia & Latin America & Total \\
\hline
Money & 15 & 8 & 8 & 31 \\
Personnel & 15 & 5 & 5 & 25 \\
Technical Assistance & 7\textsuperscript{a} & 2 & 3 & 12 \\
Research Assistance & 2 & 4 & 5 & 11 \\
Equipment & 9 & 1 & 1 & 11 \\
Training Aid & 2 & 1 & 4 & 7 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{a}A broad category including: technical consultations, expert advise, training abroad, exchange of technical data and similar activities.

\textsuperscript{12}Adams, ed., \textit{Education in National Development}, p. 45.
Financial grants as a method of supporting projects can act either to free the recipient nations from donor nation restrictions or to tie them more closely to the influence of the supplier. If the donor sets strict requirements on how the money is to be used, the receiver then is subject to the biases as well as the knowledge and experiences of the supplier. In most cases, the United States clearly defined how the funds were to be spent. In this way, the United States promoted a paternalistic relationship.

However, this pattern might be changing. Current criticism of the "one-way street" approach is indicative of a new trend in thinking on the relationship between the advanced Western nations and those of the Third World. It remains to be seen if this trend is actually reflected in future activities.

Particular aspects of U.S. policy and the educational development of less advanced nations of the Third World are noted in the selection of areas and nations that have received assistance.

Two important facts have emerged from this study of U.S. support and the projects that have received that assistance. First, educational projects selected for assistance are often in those countries where the United States holds significant amounts of counterpart funds. This probably indicates two things. First, U.S. government agencies find it less difficult to obtain funds to support projects in countries that owe the United States money. This support does not require the allocation of "hard" money or U.S. currency and it reduces holdings these nations have outstanding with the United States. Second, there already exists an established commercial and diplomatic tie between the United States
and these countries.

The second major finding from the investigation of the cases that receive U.S. aid is that recipient nations are usually politically important to the United States. Coupled with this political interest in certain developing countries is usually a commercial concern as well. Maintaining allies and markets abroad is an important function of the United States' foreign policy that is reflected in the nations selected to receive all kinds of aid.

Countries and regions receiving large amounts of U.S. aid, as indicated by the following tables showing the numbers of projects supported and regional financial support totals, are those nations and areas that probably hold or held the greatest political and economic interest for the United States.
TABLE 8
COUNTRIES RECEIVING U.S. EDUCATIONAL ASSISTANCE WITH PROJECT TOTALS

<table>
<thead>
<tr>
<th>AREA</th>
<th>COUNTRY</th>
<th>NUMBER OF PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>Nigeria</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Uganda</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Malawi</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Egypt</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ethiopia</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Iran</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ivory Coast</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Kenya</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Lebanon</td>
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</tr>
<tr>
<td></td>
<td>Niger</td>
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</tr>
<tr>
<td></td>
<td>Saudi Arabia</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sierra Leone</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sudan</td>
<td>1</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Zambia</td>
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<td></td>
<td><strong>Total 16</strong></td>
<td><strong>Total 22</strong></td>
</tr>
<tr>
<td>Asia</td>
<td>India</td>
<td>5</td>
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<tr>
<td></td>
<td>Samoa</td>
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</tr>
<tr>
<td></td>
<td><strong>Total 5</strong></td>
<td><strong>Total 10</strong></td>
</tr>
<tr>
<td>Latin America</td>
<td>Brazil</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Mexico</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Guatemala</td>
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<tr>
<td></td>
<td>Argentina</td>
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</tr>
<tr>
<td></td>
<td>Colombia</td>
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<tr>
<td></td>
<td>Chile</td>
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<tr>
<td></td>
<td>El Salvador</td>
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<tr>
<td></td>
<td>Honduras</td>
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<tr>
<td></td>
<td>Jamaica</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total 9</strong></td>
<td><strong>Total 15</strong></td>
</tr>
</tbody>
</table>
TABLE 9

DOLLAR VALUE OF LISTED U.S. AID BY AREA

<table>
<thead>
<tr>
<th>Area</th>
<th>Dollar Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>$3,000,000.00a</td>
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<tr>
<td>Asia</td>
<td>$15,470,000.00</td>
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<tr>
<td>Latin America</td>
<td>752,000.00</td>
</tr>
<tr>
<td>Total</td>
<td>$19,222,000.00</td>
</tr>
</tbody>
</table>

aThese figures are totals from reported cases and do not reflect corrections for unreported data.

One apparent contradiction in the tables is the number of countries in Africa receiving some sort of assistance from the United States is much greater than the number in Asia receiving aid yet the reported totals of U.S. dollars allocated to the areas indicate that Asia received the most financial support. This is not a contradiction but rather an indication of particular approaches that the United States applies to the two areas. In Africa, projects have usually received modest financial support. In Asia, a few projects have received millions of dollars in U.S. aid. It is more important to note the specific countries that received large assists from the United States as suggested either by the number of projects supported or by the amount of money allocated.

Nigeria in Africa and India and Thailand in Asia have been long standing beneficiaries of U.S. aid. Lately, however, nations in Latin America such as Brazil, Guatemala and El Salvador have attracted more U.S. assistance. This shift in interest and activity is probably a result of a renewed concern for Latin American neighbors as a result of Cuban Communist activities in the area and some uncertainty over the
results of supporting Asian countries such as India and Viet Nam.

However, it is important to note that U.S. aid in general has decreased in the last five years. This perforce limited the support the United States offered all countries in the last few years. Thus, projects in Latin America have not received the millions of dollars that earlier African and Asian ones did.

Other developed nations, besides the United States, also pursue aid programs that involve their national interests and foreign policies. It is apparent from table 10, listing areas receiving assistance from developed nations other than the United States, that Africa is the primary region of interest and activity.
## TABLE 10
THE NATURE OF OTHER DONOR COUNTRIES' SUPPORT
OF EDUCATIONAL PROJECTS BY AREA AND MODE

<table>
<thead>
<tr>
<th></th>
<th>Technical Assistance</th>
<th>Personnel</th>
<th>Money</th>
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<tr>
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<td>Latin America</td>
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</table>

<sup>a</sup>The United Kingdom supplied technical assistance in the form of training and expert advise for projects in Africa and Asia.
France and West Germany were both supportive of projects. Financial and technical assistance were the most common methods of support. The United Kingdom has not been involved in educational aid programs to the extent one might expect. However, Britain has been active in the training of broadcasters and educators from the developing countries through CEDO facilities in London.

Africa has been the main area of project support. In many cases, former colonial ties have carried over into current economic, cultural and political relationships between the developed nations of Europe and the new nations of Africa. This interest and activity very likely indicates some continuation of previous imperialistic relations but also suggests a genuine concern to develop less advanced countries. Additionally, previous colonies of the developed European nations usually have retained language and cultural ties that facilitate educational exchanges.

International organizations have also supported many projects in Africa. UNESCO, in particular, has been quite active in this area. (See Table 11.) While the World Bank assisted only one project in Ivory Coast, it is likely to be more active in the future. The OAS has indicated through recent project proposals and reports that it will be more supportive of educational technology projects in Latin America.
TABLE 11

INTERNATIONAL ORGANIZATIONS’ SUPPORT OF EDUCATIONAL TECHNOLOGY PROJECTS IN THE DEVELOPING COUNTRIES BY MODE AND AREA

<table>
<thead>
<tr>
<th></th>
<th>Technical Assistance</th>
<th>Money</th>
<th>Equipment</th>
<th>Other(^a)</th>
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<td>Latin America</td>
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</tbody>
</table>

\(^a\)Undisclosed assistance

The Future

While there has been a seeming lull in the involvement of the United States in the area of educational technology in the developing countries between 1966 and 1969, this may be only a prelude to much greater activity to come (see Table 12).

TABLE 12

TOTALS--PROJECTS INITIATED BY YEAR

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1950's</td>
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<td>1964</td>
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<td>1970</td>
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</table>
This interruption in U.S. aid to educational technology is explained to some extent by the general decline in funds appropriated to aid programs during the period from 1966 through 1969 by the U.S. Congress. However, a overall concern for the effectiveness of programs was probably a consideration in the reduction of aid.

Mary Ann Cusack has stated:

The U.S. Congress for the first time officially recognized the advances in educational technology this year [1970], and in the new 1970 foreign aid program authorized the President to use funds "to carry out programs of peaceful communications which make use of television and related technologies, including satellite transmissions, for educational health, agricultural, and community development purposes in the less developed countries."

She also noted that several requests for U.S. assistance for educational technology in Africa have been received and will very likely be funded.

Philip Coombs also suggested that there may be a renewed interest in supplying aid to educational technology in the less developed nations. One answer to the world educational crisis is renewed, extensive and innovative technology programs for the educational systems of the nations in the Third World.

Sidney Tickton suggested that "A substantial increase can be expected shortly in the number of countries using educational technology either in small-scale demonstrations or pilot projects, or as integral parts of major national educational reform."

---

13Cusack, New Media in Africa, p. 29.


The resurgence of activity in international educational technology, thus, may be the result of several phenomena: 1) the prospect of a crisis in education caused by inadequate school facilities and increasing populations in the developing countries; 2) a more complete understanding of what technology can and cannot do; 3) a revitalized commitment to economic, cultural and social development for Third World nations on the part of the United States; and, 4) the realization that major educational reform is possible and necessary.

Recommendations

Four major areas of concern have been identified in this study: 1) There is a lack of uniform and scientific reporting of foreign educational projects supported by the agencies of the Federal Government; 2) Planning for projects involving educational technology has been ad hoc, lacking the necessary understanding of the relationship of new technologies to less developed nations, and independent of overall development planning for economic, cultural and social improvement; 3) United States foreign policy has, too often, been concerned with political, economic and military considerations at the expense of meaningful educational assistance to the developing countries. U.S. educational relations with less advanced nations are characterized by the "one-way street" approach; 4) There is apparent renewed interest in educational technology aid programs for the developing countries in the United States.

One solution to the problem of inadequate aid program reporting would be to require all government agencies to report in a uniform and scientific manner all international programs and projects to which these
agencies give financial, technical, or any other kinds of support. Additionally, these reports must be made public and given the widest possible distribution. Such reports could provide the necessary data for effectiveness studies of technology in education abroad and might result in a better understanding of the conditions necessary for planning future projects and aid.

Improved reporting procedures might bring about improved cooperation between the various agencies providing support. It could decrease some of the duplication of effort that has occurred.

Understanding the potential of media in education and the identification of model programs in the developing countries could also result from better reporting of projects.

Mandatory, uniform and scientific reporting of programs and projects supported by the agencies of the United States Government is recommended.

The good results of U.S. aid indicate that educational technology can be used to the advantage of other countries. The poor results probably suggest that planners need to research more intensely the needs of the developing countries and the particular technologies that can be effectively applied. Even critics generally agree that there is considerable hope for technology in education. It can relieve some of the so-called "crisis in education."

Planning should be an integral part of any educational aid program. It should be required before aid is offered. Either the nation requesting aid or the United States should create an overall plan. Ideally, planning would be a joint effort, each participant contributing
Planning for educational reform or improvement should be only a part of a nation or region wide program of economic, social, and cultural development. It should be on-going and long-run rather than restricted to a certain period of time or a specific project. Too often, U.S. aid has been very limited, restrictive and, thus, contributing to poor results or failure of projects. Aid to education might better be implemented into overall development plans and provided in sufficient amounts to be really constructive.

In order to encourage large scale planning rather than applying aid to existing inadequate educational institutions, innovative educational processes or systems should be sought out and supported. It is probably of little value to maintain or expand existing educational systems.

More information is now available on the implications of using technology for education. This information should be utilized to implement the application of more effective, appropriate and less expensive devices and teaching methods. The selection of the proper medium should reflect not only the potential of the medium but also its applicability to specific kinds of education, local conditions, probable user response, and cost effectiveness.

Perhaps, more emphasis should be placed on tried and true technologies that the more sophisticated and usually expensive devices. In light of past experience, it seems more appropriate to use those technologies that already are familiar to the populations of the developing countries. For example, radio, which is common in most of these
nations, can be used more effectively, as a rule, than television which is still somewhat unique. Certainly, inexpensive media have brought about more encouraging results for money expended than more costly media.

It is recommended that planning should be an on-going process for long run applications of technology. Plans should be integrated into overall development designs. Tried and true media should be emphasized rather than new sophisticated and costly devices. Educational planning should be innovative, national and, or regional in scope and based on an understanding of the needs and abilities of the peoples of the less advanced nations.

U.S. foreign policy, which is closely related to government, and to some extent private support activities, should be modified to include a more benevolent approach to the development aspirations of Third World countries. Rather than employing a "one-way street" approach to educational exchanges, mutual sharing of experiences and knowledge of educational matters is required.

In carrying out this mandate, government and private donors should be willing to provide aid to projects and countries that do not always conform to U.S. political and economic interests.

Additionally, "hard currency" as well as "soft currency" should be allocated for educational projects. This would provide those countries that do not have debts to the United States the opportunity to take part in U.S. assistance programs. It might also result in more mutually beneficial relationships between the donor and recipient nations. Assistance backed with "hard currency" might be more carefully allocated and
effectively planned.

In addition to being willing to create a "two-way street" between the developed and developing nations, the United States should encourage a continuing dialogue on the greater issues and assumptions of our times among all the nations of the world. It should be the stated policy of the United States to consider plans for the future of the world that do not always conform to the Western vision and plans for the years to come.

Specifically, the United States should support projects that may even threaten the values for which and on which it stands. Table 2 of this chapter listed the types of educational activities that the United States has supported in the developing nations. All of these kinds of educational activities were relatively safe compared to projects that might have been assisted. In this case, activities such as forums on national and international issues, critical debates on ethics, discussion programs on politics and similar controversial topics are conspicuous by their absence. Of course, such subjects may be unacceptable to the government officials of developing nations but they should be supported if suggested by these governments and even encouraged.

There is no doubt that the United States, not UNESCO, nor any other developed nation, is the leader in the field of educational technology in the less advanced nations of the Third World. The aid supplied by the United States to projects has been massive.

All indicators suggest that the United States will continue to supply aid to such projects and possibly increase its assistance to certain parts of the world. Aid to Africa appears likely to continue in
the 1970's as it did in the early years of the 1960's. Aid to Asia is likely to decline a great deal this year and in the years to come. Latin America will become the largest recipient of U.S. educational aid if the current patterns of assistance continue.

It is recommended that the United States be encouraged to continue and expand its aid programs both on the private and governmental levels. A part of this expansion program should be the increase of research and study of technology, educational and development. Certainly one of the causes of poor reporting, inadequate planning and even unacceptable foreign educational policy is the lack of sufficient scientific research. Research of all phases of educational technology is a necessary prerequisite for more intensive activity in this area. Expanded programs of aid to educational technology projects should reflect a concern for supplying necessary money, personnel or other required elements of a project with the aim of improving the social, cultural, and economic conditions of the recipient nations. Technology can be applied effectively and inexpensively to education but it must be used humanely. Technology should be supplied or supported in Third World nations to liberate rather than to enslave people.
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