

A.I.D. EVALUATION SUMMARY - PART I

XD

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE

IDENTIFICATION DATA

A. Reporting A.I.D. Unit: Mission or AID/W Office <u>S&T/ED</u> (ES# _____)	B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan? Yes <input checked="" type="checkbox"/> Stipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/> Evaluation Plan Submission Date: FY <u>89</u> Q <u>3</u>	C. Evaluation Timing Interim <input checked="" type="checkbox"/> Final <input type="checkbox"/> Ex Post <input type="checkbox"/> Other <input type="checkbox"/>
--	--	--

D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
936-5818	Radio Learning Project		12/90	9,220	5,035

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director Action(s) Required	Name of Officer Responsible for Action	Date Action to be Complete
Invite other donors to AFR Radio Workshop to broaden donor support.	Hoxeng	1/90
Involve RLP in Education for All conference to internationalize IRI acceptance.	Hoxeng	3/90
Include RLP in AFR Conference with BRIDGES, IEES, ABEL contractors, to establish closer relationship with other S&T/ED projects.	Hoxeng	9/90

(Attach extra sheets if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: _____ (Month) _____ (Day) _____ (Year)

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	S&T/ED James Hoxeng		ST/PO Frank Alejandro	S&T/ED Samuel Rea
Signature				
Date	4-7-90			15 Mar 90

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The goal of the Radio Learning Project (RLP) is to improve the teaching of basic primary school skills in developing nations through the use of interactive radio instruction (IRI) while also furthering the adoption of IRI in LDC's as an efficient and cost effective way of improving the quality of basic education. RLP is currently underway in Honduras, Bolivia, Costa Rica, and Ecuador. The project is being implemented by the Education Development Center (EDC) with the Academy for Educational Development (AED) and Friend Dialogues as subcontractors.

This mid-term review (10/85-7/89) was conducted by James V. Terry, a private consultant, for the Bureau for Science and Technology, Office of Education (AID/S&T/ED) and coordinated by Dr. Thomas Tilson, Project Director at EDC. The evaluator reviewed project generated documents, interviewed project personnel at EDC, AED, Friend Dialogue, and James Hoxeng, the project manager, at AID/S&T/ED, and interviewed by phone RLP and AID staff in each of the four project countries. The purpose of this evaluation is to analyze the accomplishments of RLP and offer insight as to how the project might improve its effectiveness over the next year and a half. It is a component of the review process necessary prior to Phase II of the RLP.

The major findings and conclusions are:

- o Evaluative tests have demonstrated conclusively the beneficial effects that IRI brings to the enhancement of the classroom quality and the increased academic achievement of the children
- o Administrative problems appear to be minimal and manageable
- o Morale and dedication among the RLP staff are high
- o The project is well received among educators in the project countries
- o If funding can be stabilized, the projects will probably persist in all four pilot countries
- o As IRI is proving itself viable and beneficial in the project countries, the most important step now is to promote its widespread acceptance and sustainability.

COSTS

I. Evaluation Costs

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Name	Affiliation			
James V. Terry	Consultant	15 days	\$6,307	Program (Absorbed in contract)
2. Mission/Office Professional Staff Person-Days (Estimate) <u>3</u>		3. Borrower/Grantee Professional Staff Person-Days (Estimate) <u>10</u>		

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Purpose of evaluation and methodology used • Purpose of activity(ies) evaluated • Findings and conclusions (relate to questions) | <ul style="list-style-type: none"> • Principal recommendations • Lessons learned |
|--|--|

Mission or Office:
S&T/ED

Date This Summary Prepared:
April 1990

Title And Date Of Full Evaluation Report:
"The Radio Learning Project: The Current Status -
Options for the Future: A Review

Project Purpose:

of Project Activities and Issues" 7/89

The purpose of the Radio Learning Project is two-fold. First, it works to improve the teaching of basic primary school skills in the four project countries, Honduras, Bolivia, Costa Rica, and Ecuador through the use of Interactive Radio Instruction. Second, it aims to further the adoption of IRI as an efficient and cost-effective means to improve the quality of basic education worldwide.

In Honduras, RLP is used to teach mental math to grades one through three. This curriculum is designed to complement, not replace, the existing math course. The Honduras program plans to expand to the areas of adult literacy, distance and non-formal education, teacher training, professional in-service training and community education. RLP in Bolivia is using an adaptation of a Radio Math program previously used in Nicaragua. It is currently broadcast to grades two and three with plans to extend coverage to grades four and five. They also plan to develop an IRI program to teach health to grades four and five. In Costa Rica, a slight variation of the mental math program from Honduras is broadcast to grade one. They are also planning a radio-based teacher training program. Ecuador has completed the pilot phase to test whether IRI can be used in a multi-grade classroom. They broadcasted radio math lessons for grade one and anticipate that the project will eventually become national in scope.

Evaluation Purpose and Methodology Used:

The main purpose of this mid-term review is to evaluate the success of IRI in achieving its mandate in the RLP as well as in other predecessor IRI projects. The review also offers some general recommendations as to how IRI can improve its effectiveness and can be successfully adopted in more developing countries. It does not offer an extensive critique of RLP on the four project countries, but concentrates on the potential applicability of IRI for basic education in developing countries. In this respect, this review serves as input to the Office's new Learning Technologies project.

The evaluation is based on three sources: 1) interviews with involved staff from EDC, AED, and Friend Dialogues and with James Hoxeng, the project manager from AID/S&T/ED, 2) a review of project generated documents from RLP and other IRI projects, and 3) phone interviews with participating RLP and AID mission personnel in the four project countries. Site visits were not necessary because of the non-specific nature of the review.

RLP is broken down into three levels of implementation:

- 1) Information Dissemination, 2) Project Development, and 3) Project Implementation.
- These are considered and commented on separately in this review.

Findings and Conclusions:

- 1) The review states, "The four project sites have demonstrated considerable success both administratively and educationally. Administrative problems appear to be minimal and manageable... Morale and dedication among RLP staff members - both US based and local - is high. The projects have been well received... as (they) have demonstrated impressive learning gains and the enthusiastic endorsement of teaching personnel." As the pilot projects have proved themselves viable and beneficial in the project countries, the most important step now is to disseminate information and promote widespread acceptance and implementation of IRI.
- 2) Three of the project countries, Honduras, Bolivia, and Costa Rica have already implemented IRI nationwide, and Ecuador is in the process of moving from a pilot to full-scale project. The evaluation suggests that "in each situation there is every likelihood that projects will be institutionalized and persist if funding can be located and assured."
- 3) Evaluative tests for RLP as well as previous IRI projects have demonstrated conclusively that IRI enhances classroom quality and increases the academic achievement of children.

Principal Recommendations:

Recommendations are geared toward steps that, in the next year and a half of RLP, could alleviate some of the constraints that have so far limited the acceptance of radio learning methodology. These actions would not only help further implementation and acceptance in the four project countries but might also help encourage the continued expansion of IRI worldwide.

1) There should be continued efforts to internationalize RLP and IRI. Ministries of Education (MOE) are often skeptical of A.I.D. projects and may see RLP as "just the next radio project." They may be more accepting of IRI if it was not seen as so closely associated with A.I.D. and the United States Government. The RLP could become more internationalized by:

- a) looking for alternate sources of project funding from both national and international organizations such as World Bank, UN agencies, foundations, national development agencies (The Dutch, Japanese, Norwegians, Germans, etc.), bilateral agencies, and regional development banks; and
- b) creating an international professional staff to oversee all aspects of project and curriculum design and implementation.

2) Project evaluation activities should be tailored to the perceived needs of the host MOE's. Instead of concentrating on issues of increased quality of education, in which the Ministries do not seem overly interested, the evaluations should focus more on concerns that directly affect implementation and sustainability. One recommendation is to document teachers' endorsements of IRI and its positive impact on teaching skills.

S U M M A R Y (Continued)

- 3) Education projects have a low priority at AID Missions and do not receive sufficient attention. To help augment the credibility of RLP at the mission level, it should be more closely associated with another major A.I.D. educational project such as Improving the Efficiency of Educational Systems (IEES) or Basic Research and Implementation in Developing Education Systems (BRIDGES).
- 4) The RLP should utilize the participation of the RLP Advisory Board to provide insights about how the project is perceived by the larger professional educational community and suggest steps that might enhance project credibility.
- 5) The RLP should establish professional training for IRI curriculum designers to help establish IRI as a legitimate academic discipline.
- 6) The RLP should develop a marketing plan to compete with other educational technologies and get a "share of the market."
- 7) The very active student participatory style of IRI now is limited to lower primary grades. However, radio learning has great creative potential, and serious consideration should be given to the expansion of IRI methodologies to be more suitable for higher grades and non-formal education.
- 8) In order to help ensure the institutionalization of the project beyond the pilot phase, the RLP should expand the scope of technical assistance to accommodate long-term planning. To promote sustainability, the project should incorporate efforts such as counter-part training, long-term funding (beyond A.I.D. support), and evaluation that details the impact of IRI on such issues as efficiency, equity, repetition, and dropout rates.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

This evaluation met fully the office's expectations. It offers balanced, insightful and useful suggestions for enhancing the project's effectiveness in the remaining months as well as for increasing the acceptability of interactive radio after the PACD.

The evaluator spent considerable time with staff of the prime and both subcontractors, as well as with ST/ED staff and project files. Although he did not travel to the field (too expensive), the evaluation was somewhat innovative in that a structured interview format was faxed to key informants in the pilot countries and the interviews were conducted by telephone. This gave the evaluator direct access to field information at low cost.

W# 3871R, KWR, 11/30/89

ISA 66429

The Radio Learning Project:

The Current Status -- Options for the Future

A Review of Project Activities and Issues

James V. Terry, Consultant

**Office of Education
Bureau for Science and Technology
United States Agency for International Development**

July 1989

A Review of Project Activities and Issues
The Current Status -- Options for the Future

Purpose:

This review of the Radio Learning Project (RLP) was prepared at the request of the Office of Education, Bureau for Science and Technology (S&T), United States Agency for International Development (A.I.D.), and coordinated by Dr. Thomas Tilson, Project Director, at the Education Development Center as a component of the review process necessary prior to Phase II of the Radio Learning Project. It is beyond the scope of this paper to provide either a scholarly examination of the beneficial educational outcomes that may justifiably be attributed to the interactive radio instruction (IRI) methodology or to extensively critique the projects currently being conducted at the four sites associated with the project. Rather, the focus is on the activities that have been conducted to date under the aegis of the Radio Learning Project -- and the various predecessor IRI projects -- that serve as indicators both of the project's successes in carrying out its mandate and as useful sources of insights as to how the project might improve its effectiveness in future years.

Methodology:

The information necessary for this study was gathered from several sources. In addition to a review of project generated documents, discussions were held with persons associated with the project at the Education Development Center in Newton, the Academy for Educational Development in Washington and Friend Dialogues in North Carolina and with James Hoxeng at the Bureau for Science and Technology at the Agency for International Development in Washington. Telephone interviews were conducted with RLP and A.I.D. staff people at each of the four overseas sites in addition to several people who, though not directly associated with the project, are knowledgeable about interactive radio instruction and acquainted with the project. Beyond the stateside locations, there were no overseas site visits and it was therefore not possible to explore the unique dynamics operating at these projects. The overseas interviews served primarily to confirm information already available in project developed papers.

The Radio Learning Project:

The Radio Learning Project was established to improve the teaching of basic primary school skills in developing nations through the use of interactive radio instruction and to further the adoption of interactive radio instruction in developing countries throughout the world as an efficient and cost effective way to improve the quality of basic education. Activities were designed to disseminate information about interactive radio instruction and to encourage and support the development of new interactive radio projects. Funded for a five-year period in October, 1985 by The Agency for International Development, Bureau for Science and Technology, the Education Development Center, Inc. is the prime contractor and the Academy for Educational Development and Friend Dialogues of North Carolina are project subcontractors.

The purpose of the project is to share information and resources about interactive radio instruction with A.I.D. missions, other international donor agencies, and Ministries of Education (MOE) throughout the world. The strategy called for the project to be implemented at three levels:

- Information Dissemination
- Project Development
- Project Implementation

Prior to examining what has been accomplished in these three areas by the RLP, it is appropriate to review both the basic tenets of IRI and the ongoing support given to this methodology by the Agency for International Development.

Interactive Radio Instruction:

IRI is an instructional system based on a scientifically structured curriculum utilizing proven pedagogical principles, and delivered to students by radio. The term "interactive" comes from the style of these broadcasts. Although the radio is not two-way and the radio teachers cannot hear what is going on in each class, the scripts are written to stimulate a dialogue. From the point of view of an observer in the classroom, it looks as if the children and radio are interacting. What is important is that the radio engages the children; they become active and enthusiastic learners. Every few seconds they respond -- by speaking, by writing, by manipulating objects, or by doing physical activity.

IRI characteristically presents the core instructional materials; it is not usually an enrichment or supplementary program. (The Honduras Mental Arithmetic curriculum is the exception.) In the formal school system, it can improve the quality of instruction. In multigrade classrooms the radio can act as a teaching assistant, thus enabling the classroom teacher to be a more effective teacher.

IRI can also teach children in a non-formal setting, reaching those children who would not otherwise have access to a primary school education. Other important pedagogical principles include systematic presentation of prerequisite skills for each learning objective, distributed practice of new skills, systematic review, and immediate reinforcement of the correct answer to each exercise. Also, the lessons have a lively pace and offer a variety of activities.

Not all of the teaching is done by radio, although the radio carries the burden of instruction. The teachers nonbroadcast role is outlined in teachers' guides, where specific activities are described. The teacher operates in a largely traditional fashion.

The Five key elements of interactive-radio lessons are:

1. Active student participation: The interactive model earned its name from the creative approach of its broadcasts that mimic a rapid-fire dialogue between the radio and the students. Students are actively involved in the learning process, responding to the radio every 10 or 20 seconds.

2. Rigorous Instructional Design: A comprehensive master plan is developed to identify which skills will be taught, how they will be presented, the sequence of learning activities, and the pacing of instructional messages. Careful attention is paid to the identification of prerequisite learning skills so that instructional objectives can be met.

3. Distributive Learning: Individual learning segments are designed to guide students to subject mastery by distributing instruction and practice over time. A dozen topics or skills may be covered in one-half hour's broadcast

4. Immediate student reinforcement: When answering a question students need to know whether their answers are right or wrong. Following a brief pause, pupils are provided with a correct answer.

5. Creative format: IRI maintains childrens' interest while at the same time being pedagogically sound.

IRI is not a conventional technology. Other than IRI, there is virtually no history of the intensive, daily use of radio for teaching primary school children. On an ongoing basis, an IRI project can be maintained for about \$.40 to \$1.00 per student per year - but the initial costs for radios, batteries and printed materials can be substantial. Recurrent costs for IRI and other selected technologies are low, and their administration affordable and manageable for LDC Ministries of Education.

Programs have been successfully developed for children in grades 1-3 in mathematics, reading and writing in Spanish, and English as

a Second Language (ESL). In addition a new program is being developed to teach health to grades 4 and 5 and another to teach science to children in grades 4-6. IRI principles are also being used in an ESL program for adults, with particular attention to school teachers.

IRI Projects Prior to the RLP:

The Radio Learning Project is the latest in a series of projects and activities that represent A.I.D.'s longstanding support for interactive radio instruction. With the exception of Thailand, which was funded by the World Bank, all IRI projects have been initiated with A.I.D. support. The context within which the RLP operates and is understood by potential participants has, at least in part, been determined by the history of interactive radio instruction since the initial experimental project in Nicaragua fifteen years ago. Viewed from a current perspective, the years of experience with IRI have clearly allowed for the increased sophistication of the methodology and the successful introduction of the technique in a limited number of countries. The passage of time has also, however, taken away from the "newness" of the process and has served to raise the issue of why IRI has not been more widely implemented. Given the 15 year history of IRI, it is understandable that some educators question why the technique has not been more widely adopted and why, in some cases, where pilot projects have been developed, they have not been adopted.

In a general sense, the mission of each of these projects initiated and supported by A.I.D. has been similar - to refine the methodology, establish the credibility and encourage and support the wider utilization of interactive radio instruction in developing countries. A further goal has been to design a method of educational improvement that is effective, easy to manage on a large scale, and affordable. Although the various projects have convincingly demonstrated both the educational benefits and the cost savings that may be derived from IRI, they also suggest important questions about the sustainability of such projects.

Nicaragua:

The Nicaragua Radio Mathematics Project began, with S&T support, in mid 1974 and was designed to develop daily radio lessons that would significantly improve the quality of mathematics instruction in primary schools. Extensive evaluation of the Math Project demonstrated it be extremely successful in improving the mathematics achievement of students. Table 1 illustrates the differing academic gains obtained by students utilizing IRI and a control group.

Table 1

Radio Mathematics Project - Nicaragua
Comparison of Achievement Test Mean Scores: Math

Grade	Radio	Control
1	65.5	40.6
2	65.9	59.3
3	56.5	44.3
4	34.5	34.1

The curriculum for the Radio Math Project was divided into two parts - a daily radio broadcast, which lasted from 20 to 30 minutes, and structured postbroadcast activities presented by the classroom teacher for another 30 minutes. The project went far beyond existing conceptions of instructional radio.

Radio Mathematics became the prototype for interactive radio instruction and the curriculum developed there has been, and continues to be, adapted by projects in several countries. The Radio Math project in Nicaragua was suspended in early 1979 with the outbreak of the revolution in that country.

Kenya:

The Radio Mathematics project was followed in 1980 by the Kenya Radio Language Arts Project (RLAP) which applied the teaching principles developed in Nicaragua to language instruction. The specific purpose of RLAP was to develop, implement, and test the effectiveness of an instructional system that used radio intensively to teach English as a foreign language at the lower primary school level (Standards I and III). The program consisted of daily half-hour radio lessons followed by postbroadcast activities taught by the classroom teacher. Five hundred and eighty five lessons were written and tested in schools representing Kenya's major cultural and linguistic groups. Systematic evaluations showed that the group of children exposed to radio consistently outperformed the control group in reading, writing, and speaking. Radio students scored between 5 and 10 percentage points above control students in all skills. Responses from teachers and headmasters were very enthusiastic as 95% stated that they preferred to teach with the radio. Recurrent costs for radio English lessons to all first year classrooms in Kenya were estimated to be \$.40. The project ended in 1985.

Dominican Republic:

The Radio Assisted Community Basic Education Project (Programa Radio Educativa Comunitario or RADECO) in the Dominican Republic is unique among IRI projects inasmuch as it brings education to rural areas not reached by formal schooling. RADECO provides instruction in mathematics, reading, natural and social sciences to primary school children living in the isolated southwest regions of the country that are without primary schools. Begun in 1982 as an experimental radio education project funded by A.I.D., RADECO is based on the instructional methodologies developed by the Nicaragua Radio Mathematics Program and is essentially a distance education system for primary education. The program was institutionalized as an official program of the Secretariat of Education, Fine Arts, and Religion in 1986 when the Secretariat took responsibility for the program's administrative costs. In RADECO, the radio is the teacher. Children gather together in a community center and, guided by a leader or "radio aide," listen to one hour radio lessons. The programs for each grade are transmitted by regional radio stations at different times of the day. For example, there are broadcasts from two to three p.m. for first graders; and from four to five p.m. for third graders. It now serves more than 82 communities in five provinces.

Lesotho:

The "English in Action" program was started in 1987 in Lesotho to help improve English language teaching at the primary level. The A.I.D. supported Basic and Non-formal Education Systems (BANFES) Project has been working in Lesotho to support the implementation of this interactive radio series which is directed at Standards I to III. Following a successful pilot testing of the Standard I programs, country-wide broadcasting began in February, 1988. One year later, Standard II programs began to air. Standard III programs, to be aired in February 1990, are in production. The programs are adapted from the RLAF developed in Kenya between 1980 and 1985. Although "English in Action" is not a mandatory program, participation is widespread as radios are commonly found in the schools and the program provides radios at a subsidized price for those schools that wish to purchase one.

Papua New Guinea:

The Radio Science Project in Papua New Guinea (although administered by the Education Development Center, is not a part of the Radio Learning Project and is managed under a separate contract with S&T, A.I.D.) began in 1986 and was initially directed to students in grade 4. Future plans call for its introduction into grade 5 in 1989 and grade 6 in 1990. The radio programs are based on the official rural school curriculum in science, plus aspects

of health, agriculture and community life and call for the classroom teacher to participate in a supportive role. This is the first time that interactive radio has been used to teach upper primary level students and the subject of science. The project is unique because of the increased teacher training required and the incorporation on a regular basis of open ended questions and hands-on materials.

Nepal:

Nepal has been the site of an A.I.D.-funded radio assisted teacher training program since 1978. The overall goal of the Radio Education Teacher Training (RETT) Project II (1984-1989) was to increase the access of children to relevant, effective education. The purpose of the project was to improve the knowledge and skills of primary school teachers who did not possess the School Leaving Certificate (SLC) through radio based in-service training. The project was designed to improve content knowledge in Nepali, English, mathematics, and science to levels that would permit teachers to pass the SLC examination. It was targeted that no less than 6,000 teachers in all 75 districts would be reached during the course of the project. This objective proved to be unachievable as the project was directed, during its third year, by the Ministry, to stop providing training for under-SLC teachers as they will no longer be employed by in the primary schools in Nepal. It was also determined that the strategy of attempting to bring the under-SLC teaching population to a level of competence that would permit them to pass the SLC examination was unrealistic in view of the wide range of abilities that had to be addressed through single courses of instruction and the time and resources available to the project. During the course of the project, however, radio education has moved from the fringe of in-service teacher education into the mainstream of national priorities. There has been a four-fold increase of GON resources provided over the life of the project and the project has stable and effective leadership. Currently the project has begun to prepare IRI training materials for SLC-pass teachers as part of the Ministry of Education and Culture (MOEC) Basic Teacher Training (BTT) effort to provide 150 hours of in-service training to 77,000 untrained teachers by the year 2000.

Thailand:

In 1980 Thailand adapted the Radio Mathematics lessons originally developed in Nicaragua. Broadcasting began in 1980 and was initially limited to a pilot study located in two areas of the country. The Basic Skills Pilot Project (BSPP) project was funded by the World Bank and the Thai Ministry of Education as part of the Bank's Fifth Education Project in Thailand. During the first year of the project, second grade mathematics programs were broadcast

daily on two radio stations, one in Bangkok and the other in a small town in the northeast region of Thailand. A total of more than 50 schools used the programs and by 1984 they were made available for use in all primary schools. Achievement tests showed that BSPP experimental schools did better than control schools in every region. The programs are currently being used voluntarily in over 1,200 schools in 72 provinces in Thailand.

The basic IRI methodology developed for the Nicaragua Mathematics Project has been retained within the variety of national circumstances and educational needs. Although evaluations have shown minor variations between projects in educational outcomes, there is no evidence that the necessary modifications have significantly lessened the educational impact of IRI. The Radio Learning Project has built upon the experience provided by these projects and adapted a variety of formats within which to install IRI.

Table 2 summarizes the IRI projects to date.

Table 2

		Math	ESL	Spanish	Science	Teacher Training	Health
1974	Nicaragua	N					
1980	Thailand	A					
1980	Kenya		N				
1980	Nepal					N	
1981	Dominican Republic	A		N			
1986	Papua New Guinea				N	N	
1987	Honduras*	N	A	P			
1987	Bolivia*	A/N					N
1987	Lesotho		A				
1988	Costa Rica*	A					
1988	Ecuador*	P		P			

Key: * = RLP Projects
 N = New Curriculum Model Developed
 A = Adapted Curriculum Model Used
 P = Planning Stage

The Radio Learning Project -- Dissemination Activities:

A variety of activities have been undertaken by the RLP to both document the achievement of IRI and inform educators throughout the world of site activities. Although the resources allocated to this effort have been relatively small, a wide variety of techniques have been utilized to share information and resources about IRI with USAID missions, other international donor agencies, and MOE officials. As IRI projects have become operational there has been a slight diminution of dissemination efforts due to the exigencies of project management.

Informational materials utilizing various media (print, audio and video tapes) have been developed and distributed both in response to inquiries and to individuals who have been identified as being in important decision making positions. Newsletters and technical briefs have been prepared, conference presentations and workshops have been conducted and an ongoing program of information dissemination to potentially interested persons and institutions has continued throughout the duration of the project.

Although time and staff constraints have not allowed for the in-depth treatment of IRI that might be found in scholarly journals and that might help to enhance its credibility among academics, there is no reason to believe that any hesitancy to embrace IRI can be traced to an absence of readily available information. The RLP has initiated contacts with virtually all the A.I.D. supported countries and provided material for numerous articles in the "Development Communication Report," a publication of the Clearinghouse of Development Communication supported by the S&T Bureau of A.I.D.

The question as to what role the quantity and high quality of the materials distributed might have played in creating a demand for IRI is a legitimate one. The benefits of IRI have been extensively documented since Nicaragua and it seems unlikely that any national hesitancy to install IRI derives from a lack of information.

The Radio Learning Project -- Project Development and Implementation Activities:

Project development and implementation activities have provided the major focus for project activities during the past year. As stated in the original "Scope of Work:"

The expected outcome of the ... contract is the successful adaptation of the interactive-radio instruction model to the national culture, language and curricula in at least four diffusion sites. ...During the first four years in any given site, it is expected that

the use of IRI will expand from a pilot activity into a national system....

Three countries are now actively implementing IRI with RLP support; Honduras, Bolivia, Costa Rica. A fourth country, Ecuador, is currently between a pilot and full-scale project. Belize has indicated an interest to begin IRI broadcasts and has recently agreed to acquire materials from Honduras. Agreements have been negotiated and signed with host governments and agencies and in each situation there is every likelihood that the projects will be institutionalized and persist if funding can be located and assured.

Honduras:

The RLP project in Honduras is being developed under the auspices of AVANCE (La Asociación de Promoción y Desarrollo Socioeconómico) a USAID/Honduras supported foundation comprising the country's leading industrialists. A.I.D. helped to create AVANCE and it has a broad mandate for the use of mass media in education and social development.

The original project plans called for an adaption of the Nicaragua Radio Math curricula but Honduras opted for a program of mental math, the design of which has called for considerable technical assistance. The math series that resulted, La Familia de los Numeros, is comprised of 24 minute daily broadcasts that cover all aspects of mental computation. The curriculum is designed to complement, not replace, the existing math course of study and has required extensive curriculum design and formative evaluation. The RLP began providing technical assistance in April, 1987. The IRI math course in Honduras - for grades one through three - began pilot broadcasting in April, 1988 in the six most populous provinces in the country. In the first year of broadcasting the math lessons reached 90,000 students. Nationwide broadcasts began in 1989 and an estimated 350,000 pupils are currently participating.

The project is unique in that it moves IRI from research and development to full scale implementation.

The program in Honduras also has plans to work in the areas of adult literacy, distance and non-formal education, teacher training, professional in-service training and community education.

AVANCE is also adapting ESL materials which were originally developed for the Radio Language Arts Project in Kenya, for use in Spanish-English bilingual schools in Honduras. This course may be adapted to teach English as second language to adults. A Spanish language reading course for grades one through three is in the early stages of design. AVANCE has also recently agreed to provide

IRI ESL materials to Belize -- in an arrangement similar to the one that they now have with Costa Rica -- and it is anticipated that broadcasts will begin soon in Belize.

Although AVANCE is endorsed by the MOE, they receive no financial assistance from the Ministry and their goal is to become financially independent within four years. The programs are marketed by AVANCE directly to Honduran teachers, who buy membership in the interactive radio system and receive a packet of materials. AVANCE is also trying to develop a wide out-of-school listenership for additional financial support.

Bolivia:

The Radio Education Project in Bolivia began in early 1987 with a pilot study conducted in eleven second grade classrooms in two regions of Bolivia. The one month pilot project tried out second grade lessons from the Radio Mathematics Project originally developed in Nicaragua in 1974 after scripts for these lessons were modified to suit the culture, language and curriculum of Bolivia. Following the pilot project, gains in student learning were measured in all participating schools and an average gain of 25 percentage points in posttests was recorded. The success of the pilot project led to the implementation of IRI programs in Bolivian primary schools in early 1988.

Expanded implementation plans began in early 1988. More than 250 Bolivian teachers and school directors were trained in the interactive radio instructional methodology at that time. Broadcasts of IRI lessons began in April, 1988 and math lessons are now being broadcast to grades 2 and 3. There are plans to expand coverage to grades 4-5. IRI is being used in Bolivian schools to improve student learning in mathematics and -- on a limited pilot basis -- in health. The math curricula was derived from the Nicaragua Radio Mathematics project and is being administered by Fe y Alegria, a Catholic organization that is working with 350 schools, on behalf of the MOE, throughout the country. There are currently an estimated 360 second grade and 236 third grade classes with an enrollment of approximately 20,000 students involved with the project in Bolivia.

A recent report (Seims, 1989) notes the impressive learning gains that have been recorded by IRI in Bolivia:

For the first year of the project, an effect size of .909 was obtained in the second grade, year-end evaluation which indicates a gain significantly higher than in studies reviewed in other countries of the effect of radio, textbook provision and teacher training. ... An effect size of .909 would mean that where the average control-group student would rank at the 50th percentile,

the average radio student would rank at about the 61st percentile, a gain of 31 percentile points.

Seims goes on to point out that the effect size for second grade math in Nicaragua was only .55.

Though the MOE is supportive, they are not actively involved with the project. Fe y Alegria is working to improve the quality of education in the marginal areas of the country. The most striking characteristic of the Fe Y Alegria program is the importance and amount of community and parental support their program receives. Fe y Alegria broadcasts radio math lessons in cooperation with ten regional radio stations.

There are plans to expand the program and Fe y Alegria has additionally begun development of an IRI health education module for grades 4 and 5. The ten radio lessons focus on oral rehydration therapy and diarrheal disease. It will be the first health activity of this kind in Bolivia and is the first use of IRI for health education.

In common with many USAID missions, education projects have not been given a high priority by USAID/Bolivia. This is in part due to political and policy decisions made by Washington that have limited both the funding and the options available to the Mission. The continuation of the RLP project in Bolivia is in doubt because funds may be drawn off to support the US anti-narcotics effort in Bolivia. There is therefore, an ongoing question about the future of USAID funding for this project.

Costa Rica:

In 1988 the Ministry of Education in Costa Rica decided to begin using the IRI methodology as a part of its new National Center for Teaching (CENADI) by broadcasting lessons from a local cultural station. Tapes from La Familia de los Numeros, originally developed in Honduras, are used with only slight modification. In May 1988, a delegation of Costa Rican Educators visited Honduras, where they studied AVANCE's experience with IRI in anticipation of setting up IRI activities in Costa Rica and in July, CENADI signed an agreement with AVANCE agreeing that AVANCE would provide a copy of each math lesson and all print materials and 10 weeks of technical assistance to CENADI. The project is based in CENADI - the new resource center established by the Ministry of Public Education in 1988 to improve the quality of education through better teacher training and improved instruction to children. The project began with a pilot activity in May 1988 using the grade 1 mental arithmetic lessons. Costa Rica began daily broadcasts of the lessons adapted from Honduras in Mid-August 1988 and 70 lessons were broadcast during the first three months. The programs are currently restricted to first grade mental math.

Current plans call for the revision of the lessons and their introduction into 500 schools in 1989 and then on a national basis in 1990. Radio reception problems will be solved in 1989 by broadcasting on Radio Nacional de Costa Rica. Broadcasts are being provided free of cost - both this year and last.

There are also plans for a radio-based teacher training program to be developed in Costa Rica. A workshop was held in Costa Rica in April, 1989 to develop a radio-based teacher training program to support the IRI math series and a project to develop the series of 30 1/2 hour teacher training lessons began in July 1989 with external funding by the RLP.

Costa Rica is using internal government funding to finance its IRI program and additional funding for technical assistance and IRI materials being provided by the RLP through a subcontract with AVANCE in Honduras. Although USAID/Costa Rica is not providing funds for the Costa Rica project - they have indicated strong support for the project.

The project in Costa Rica is notable because of the low level of assistance that has been necessary. This low level has been possible because the MOE will only make minor changes in lessons developed elsewhere and MOE has a high level of technical competence in the required areas of expertise. The project was started in record time with broadcasts commencing just a few weeks after a letter of understanding was signed between the MOE and AVANCE.

Ecuador:

The Ecuador Radio Mathematics pilot project which took place over a 20 week period between August and December 1988 had two objectives - to determine if IRI radio math lessons would be appropriate for multi-grade classrooms and in schools with no more than three teachers. Forty two percent of the over 12,000 schools offer grades one through six in a single classroom. A second objective was to determine if Ecuador had the institutional capability to operate such a project. During the pilot period math lessons were broadcast to about 150 grade 1 classes in 21 schools in 7 provinces. The project lessons could be heard on Monday through Friday on three medium wave and three short wave frequencies. All of the transmissions were without cost to the project. The MOE is supportive and the prospects appear good that the success of the pilot project will lead to a 5 year IRI project directed to rural schools.

The project will be administered by CRECERA (Centro Regional de Comunicacion Educativa para la Region Amazonica), the arm of the Ministry of Education and Culture devoted to distance education. Future prospects appear to be bright. USAID/Ecuador has recently

agreed to "buy into" the project -- for assistance in preparing the proposal for an IRI project -- and has included the RLP, for planning the IRI project, as a part of the mission's CDSS strategy for the next five years.

It is anticipated that the project will eventually become national in scope but, not with A.I.D. funds. Personnel at USAID/Ecuador have speculated that the World Bank might assist with future funding.

Overall Remarks -- Recommendations:

The Radio Learning Project has completed just over three and a half years of its five year contract and an extension of the project is currently being considered by A.I.D. It is appropriate to consider how the remaining year and a half of the contract might most effectively be utilized and how the RLP mission might be modified and expanded in Phase II. The following remarks are directed not so much at reciting the accomplishments of these first years -- which are both alluded to above and recounted in detail in the three Annual Reports that the project has issued - but rather to look at the broader context within which the project must operate and address some of the constraints that have limited the acceptance of the radio learning methodology. The experience of the past several years suggests several potential areas of project development that would both serve to address the present circumstances and work to alleviate the constraints to further acceptance of interactive radio.

Congress has earmarked funds for basic education and the pivotal role played by basic education in all aspects of development is receiving considerable attention among international development organizations. The case for interactive radio education is clear and decisive. Rigorous evaluations conducted over many years at a wide variety of sites have demonstrated conclusively the beneficial effects that IRI brings to the enhancement of classroom quality and the increased academic achievement of children. Yet, it cannot be a foregone conclusion that IRI will be accepted as a major participant among competing educational methodologies in the developing world. If the potential benefit of IRI is to be realized beyond the relatively small number of countries where it is now located, additional resources, both financial and personal, together with a modified strategy, will be necessary. There are factors and constraints that have impeded a more universal acceptance of IRI and that are not now incorporated into the RLP design. The following recommendations are presented, not as an alternative to the technical assistance currently being provided to the RLP sites but rather, as ideas that might be incorporated by the RLP to encourage the continued expansion of IRI. The viability and visibility of the IRI process are no longer an issue; widespread acceptance and sustainability are.

Recommendation: There should be continued efforts to internationalize the RLP.

IRI acceptance by some Ministries of Education would be facilitated if the RLP was not perceived as being so closely associated with A.I.D. As A.I.D. funded development projects have become increasingly politicized over the past 20 years, officials within ministries have often been cautious in their endorsement of A.I.D. projects. Although the RLP is relatively new, interactive radio is not, and the RLP is justifiably seen as the most recent manifestation of A.I.D.'s support for IRI. This historical association with A.I.D. denies the RLP the autonomy that would come from a somewhat more independent identity. Although the time has allowed for an increased sophistication of the IRI methodology, the fifteen year inability to achieve widespread utilization has given rise to skepticism among some educational administrators. Increased internationalization would help to provide the project with both a new image and at least a partial disassociation with past difficulties. The concept of IRI has been identified by many as a uniquely American idea. Although the genesis of the idea is American, there is no inherent reason why it must continue to be associated exclusively with this country.

Internationalization of the project would be furthered by:

1. a systematic effort to locate local project funding sources outside of the A.I.D. system. Potential IRI funding sources, both nationally and international, need to be identified and solicited. Possible sources for future funding might include the World Bank, UN agencies, foundations, national development agencies (the Dutch, Japanese, Norwegian, Germans, etc.) bilateral agencies and regional development banks.

2. the development of an international professional staff capable of taking responsibility for all aspects of project and curriculum design and implementation. The project now draws upon the expertise of educators who have, in some instances, been associated with IRI since the days of the Nicaragua Math Project. The pool of people prepared to offer technical assistance is distressingly small and even with the relatively few projects now operating is close to being over committed. Technical assistance in the areas of educational methodology and program design is now dependent on a relatively small group of US based personnel. This is potentially a limiting factor in the further adoption of IRI in additional countries. Funding should be sought that would encourage inter-site visits by those local professionals now acquainted with IRI.

Through the exclusive use of American consultants and the nearly total reliance on American funds the project is inevitably associated in the minds of many with the American government -- a situation likely to make the marketing of IRI more difficult.

Recommendation: Project evaluation activities should be tailored to the perceived needs of the Ministry of Education.

Evaluations of IRI have, to date, tended to concentrate on the issue of educational quality and substantial evidence continues to accumulate that documents the contention that IRI does increase the learning outcomes within IRI classrooms. The evidence is abundant and convincing. There is, however, a serious question as to how much difference this evidence makes at the Ministerial level. There is little evidence that Ministries of Education are primarily interested in increasing the quality of the educational program. Indeed, there is reason to believe that educational administrators in many developing countries are hesitant to provide the "add-on" costs required by IRI on the basis of the quality argument alone. Just as the emerging requirements of the program shift it away from techniques of curricula design to the needs of implementation and sustainability, so, too, should evaluation activities shift emphasis towards those concerns most likely to directly effect implementation and sustainability.

The important role of the classroom teacher is widely recognized yet, it has received less attention than it deserves within the IRI equation. Initial concerns that teachers might resist the "intrusion" of a radio in their classroom have been shown to be without basis. The reception by the teachers has been enthusiastic and their endorsement has been repeatedly noted. The impact that the ongoing exposure to IRI programs has on their teaching skills -- beyond the IRI programs -- has received little attention. It is reasonable to assume that the IRI broadcasts are providing valuable pedagogical instruction to teachers and the documentation of this effect could enhance the case for IRI with Ministries.

Recommendation: The RLP should establish a closer relationship with other S&T/ED projects.

Although the project is supported by S&T/A.I.D. a major stumbling block has often been the USAID missions. Education portfolios characteristically have a low priority at the missions. A closer association with the S&T Improving the Efficiency of Educational Systems (IEES) and Basic Research and Implementation in Developing Education Systems (BRIDGES) projects would be advantageous to the RLP as a way to increase credibility at the mission and MOE level. A closer association with both the BRIDGES and IEES projects could assist the RLP through the credibility that their endorsement would give the project.

Recommendation: The RLP should encourage the participation of the RLP Advisory Board.

The RLP Advisory Board is an under utilized resource that could, if activated, provide the RLP staff with valuable insights about how the project is perceived by the larger professional educational community and suggest steps that might enhance project credibility.

Recommendation: The RLP should encourage the establishment of professional training for IRI curriculum designers.

IRI needs to be recognized as a legitimate academic discipline if it is to expand. Universities should be identified, both in this country and abroad, that could help to train the professional level personnel that will be necessary as the project expands.

Recommendation: The RLP should develop a marketing plan.

The marketing of educational technologies in the LDCs is a sophisticated and highly organized endeavor. Textbook publishers, for example, maintain large marketing staffs. IRI is in competition with others who have techniques and products that are also seeking a "share of the market." In addition to developing a comprehensive marketing plan, the staff at EDC should be expanded to provide the staff and resources necessary to implement a carefully crafted marketing process.

Recommendation: Serious consideration should be given to an expansion of IRI methodology beyond the early grades of primary school.

The RLP presumes as essential the interactive relationship that is evident in the active participation of primary students during broadcasts. A strict adherence to this tenet has, however, largely limited the possible IRI audience to children in the early grades of primary school. Radio has great creative potential and the RLP should consider how the IRI methodology might be modified for an older audience through a somewhat less strict interpretation of "interactive." An additional modification or expansion of the IRI idea might see its utilization as a teaching method for those not enrolled in school. Such new applications of the IRI methodology need not abandon the interactive aspect of the technique but would perhaps result in a new form or style of interaction.

Recommendation: The RLP should expand the scope of technical assistance provided to the sites.

There is a need to expand the scope of technical assistance beyond that of providing educational expertise. Technical assistance must include a responsiveness to the educational needs of the country as articulated by officials at the host MOE. Sustainability efforts must be built into the original design and include components that address the issues of counterpart training, long-term funding (beyond A.I.D. support) and evaluation that details the impact of IRI on such issues as efficiency, equity, repetition and drop out rates. The institutionalization of the project beyond the pilot phase and assistance in locating funding sources will become more important as the project matures and expands.

Conclusion:

The RLP is the latest in a series of projects and activities that represent A.I.D.'s longstanding support for interactive radio instruction. In a general sense, the mission of each of these projects initiated and supported by A.I.D. has been similar - to refine the methodology, establish the credibility and encourage and support the wider utilization of interactive radio instruction in developing countries

The four project sites have demonstrated considerable success both administratively and educationally. Administrative problems appear to be minimal and manageable. The consortium members have distributed responsibilities in a timely, efficient and productive manner. Morale and dedication among RLP staff members -- both US based and local -- is high. The projects have been well received and initial skepticism among some educators at the sites has dissipated as the projects have demonstrated impressive learning gains and the enthusiastic endorsement of teaching personnel. If funding can be stabilized there is every likelihood that these projects will persist.

Persons Contacted:

Dean Jamison,	The World Bank
John Middleton,	The World Bank
Joao B.A. Oliveira,	The World Bank
Barbara Searle,	The World Bank
Nwanganga Shields,	The World Bank
Dolores Alvino	Education Development Center, Inc.
Wambui Githiora	Education Development Center, Inc.
Joan Larcom	Education Development Center, Inc.
Molly Teas	Education Development Center, Inc.
Tom Tilson	Education Development Center, Inc.
Chris Friend	Friend Dialogues of North Carolina, Inc.
Jamesine Friend	Friend Dialogues of North Carolina, Inc.
Steve Koslow	Friend Dialogues of North Carolina, Inc.
Bette Booth	Academy for Educational Development, Inc.
Paula Gubbins	Academy for Educational Development, Inc.
Phil Sedlak	Academy for Educational Development, Inc.
Jim Hoxeng	Office of Education, Bureau for Science and Technology, Human Resources Directorate, A.I.D.
Hal Freeman	Education and Human Resources Division, Office of Technical Resources, Bureau for Asia and the Near East, A.I.D.
Mike Laflin	Institute for International Research, Inc.
Allison Warner	UNICEF, Radio Division of Information & Public Affairs
Robert Hornik	Annenberg School of Communications, Philadelphia, PA
David Edgerton	RLP/Honduras
Lorenzo Guadamuz	MOE/Costa Rica
Flora Ruiz	USAID/Costa Rica
Michelle Fryer	RLP/Bolivia
Judiann McNulty	RLP/Bolivia
Sandy Wilcox	USAID/Bolivia
Bambi Arellano	USAID/Ecuador

Bibliography:

Agreement Between Education Development Center, Inc. and Academy for Educational Development, Article 1, Statement of Work, no date.

Anzalone, Stephen and Sundar Shyam B. Mathema, Final External Evaluation: Radio Education Teacher Training Project (RETT II), His Majesty's Government of Nepal and The United States Agency for International Development, USAID Indefinite Quantity Contract in Education, Training, and Human Resources Development, March 1989.

Ecuador Interactive Radio Mathematics Project Report, August 1 - October 15, 1988.

Edgerton, David, The Honduras Radio Learning Project: Mid-Point Review of Technical Assistance to AVANCE - with Amended Plan for Continuing Technical Assistance through October, 1990, November 30, 1988.

Friend, Jamesine, Producing Radio Lessons for Children, Institute for Mathematical Studies in the Social Science, Stanford University, Stanford, California, 1981.

Fryer, Michelle L., Radio Education Project. First Year Summative Evaluation: Second Grade Mathematics -- November 1988 - November 1989, Cochabamba, Trinidad, Kami, Bolivia. Radio Learning Project, June 23, 1989.

Fryer, Michelle L., Using Interactive Radio to Improve Upon the Efficiency and Quality of Education in Bolivia: Pilot Project Proposal, Submitted to: A.I.D./BOLIVIA, Radio Learning Project, Education Development Center, January 1, 1987.

Heald, Gary R., Market Analysis of Purchase and Usage Patterns on the Interactive Radio Instructional Package; "La Familia de los Numeros," December 19, 1988.

Interactive Radio Instruction Handbook: A Guide to Planning and Implementation, The Academy for Educational Development, Inc., Clearinghouse on Development Communication, 1988.

Radio Learning Project, Annual Report - Project Year 1, October, 1985 - December, 1986, Education Development Center, Inc., In Consortium with: Academy for Educational Development, Inc., and Friend Dialogues, Inc.

Radio Learning Project, 1987 Annual Report, Education Development Center, Inc., In Consortium with: Academy for Educational Development, Inc., and Friend Dialogues, Inc.

Seims, La Rue N., Radio Education Project Evaluation, Submitted to USAID/Bolivia, June 15, 1989.

Shaw, Willard D., David C. Edgerton and Mana P. Wagley, Mid-Term Evaluation Report: Radio Education Teacher Training II, USAID/Nepal, HMG/N Ministry of Education and Culture, April, 1987.

Tilson, Thomas D., Improving Learning in English and Arithmetic in Malawi Using Interactive Radio Instruction: A Working Paper Developed for the World Bank Second Education Sector Credit Malawi, January 10, 1989

Tilson, Thomas D., Issues Affecting Implementation of Educational Innovations: Case Studies of Interactive Radio Instruction, Paper Presented at the Comparative and International Education Society Conference, Atlanta, Georgia, March 17, 1988.

Trip Reports

"Radio Learning Technical Briefs."

Periodicals:

"Development Communication Report," The Clearinghouse on Development Communication.

"Radio Learning," Report of the Radio Learning Project.