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CENTER FOR THE STUDY OF EVALUATION  
UCLA GRADUATE SCHOOL OF EDUCATION  
LOS ANGELES, CALIFORNIA 90024

January 21, 1975

AID Reference Center  
c/o Dr. Myron H. Vent  
Office of Education and Human Resources  
Department of State  
21st and Virginia Streets, N. W.  
Washington, DC 20523

Gentlemen:

In accordance with Contract AID-ta-C-1124, I am enclosing two copies of the interim report on the evaluation of non-formal education in Ecuador.

The reporting requirements for this contract call for "an administrative report covering expenditures." This report is now in preparation and will be forwarded to you as soon as it is completed.

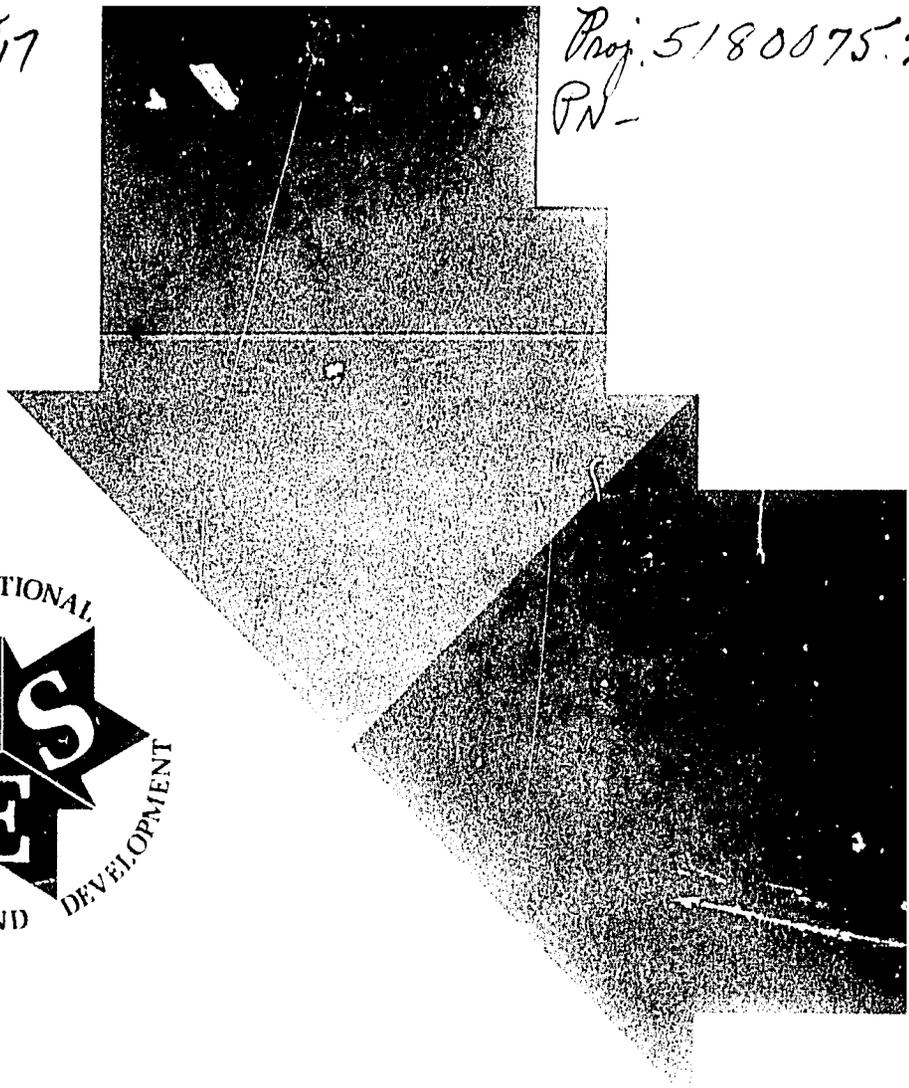
Sincerely,

  
Marvin C. Alkin  
Director

MCA/k  
Enclosures

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PD-AAA-744-E1

**CENTER FOR THE  
STUDY OF  
EVALUATION**

UCLA  
Graduate School  
of Education  
Los Angeles, California



EVALUATION OF NON-FORMAL EDUCATION IN ECUADOR

Mid-Year Progress Report

AID/ta C 1124

December 31, 1976

**CENTER FOR THE  
STUDY OF  
EVALUATION**



**MARVIN C. ALKIN  
DIRECTOR**

UCLA Graduate School of Education

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**BIBLIOGRAPHIC INPUT SHEET**

|                           |              |
|---------------------------|--------------|
| 1. SUBJECT CLASSIFICATION | A. PRIMARY   |
|                           | B. SECONDARY |

2. TITLE AND SUBTITLE  
Evaluation of non-formal education in Ecuador, mid-year progress report

3. AUTHOR(S)  
(100) Laosa, L.M.; Alkin, M.C.

|                          |                            |                                       |
|--------------------------|----------------------------|---------------------------------------|
| 4. DOCUMENT DATE<br>1974 | 5. NUMBER OF PAGES<br>36p. | 6. ARC NUMBER<br>ARC EC370.09866.A415 |
|--------------------------|----------------------------|---------------------------------------|

7. REFERENCE ORGANIZATION NAME AND ADDRESS  
Calif--Los Angeles

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publishers, Availability)  
(Final rpt., 1975, issued by the same authors as follows: Executive summary, 27p.: PN-AAB-684; Overview and evaluation plan, 95p.: PN-AAC-010; Findings, 205p.: PN-AAG-080; Appendices, 258p.: PN-AAC-081)

9. ABSTRACT

|                    |  |
|--------------------|--|
| 10. CONTROL NUMBER | 11. PRICE OF DOCUMENT                    |
|                    | 12. DESCRIPTORS                          |
|                    | 13. PROJECT NUMBER<br>518-0075.2         |
|                    | 14. CONTRACT NUMBER<br>AID/ta-C-1124 GTS |
|                    | 15. TYPE OF DOCUMENT                     |

MID-YEAR PROGRESS REPORT

December 31, 1974

Submitted by

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Evaluation of Non-Formal Education in Ecuador

Center for the Study of Evaluation  
University of California, Los Angeles

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## MID-YEAR PROGRESS REPORT

### Evaluation of Non-Formal Education in Ecuador

UCLA Center for the Study of Evaluation

#### Introduction

This report presents the status of the work under progress in the evaluation of the University of Massachusetts Non-Formal Education Project in Ecuador. This evaluation is being conducted by the UCLA Center for the Study of Evaluation under Contract No. AID/ta - C-1124 with the U. S. Agency for International Development.

#### Objectives of the Evaluation

As stipulated in the statement of Work of the General Provisions of the Contract, the objective of this contract is to evaluate the non-formal education project in Ecuador and to determine its replicability in other regions of the world. In the Description section of the Contract it is stipulated that the contractor shall provide the staff required to carry on a summative and formative evaluation of the Ecuador non-formal education project and to determine its effectiveness. It is further stipulated in the contract that the primary focus shall be "on the factors in the instructional materials that seem reasonably related to intended and desired consequences in participants as individuals and social groups."

The major questions that the evaluation should answer, as stipulated in the contract, are as follows:

- (1) What kinds of effects (changes) can be observed; and
- (2) What are the characteristics of the materials and procedures as they can be logically and/or empirically related to the desirable outcomes.

A principal step in the development of the evaluation design was to articulate the major questions stipulated in the contract into more specific questions in order to assure that the data collected through the evaluation design would provide information optimally useful for decision-makers.

Since the contract calls for a summative as well as a formative evaluation, the information collected should satisfy these two purposes.

After a series of interviews and written communications with AID officials in both the Washington Office and the Mission Office in Quito, and with University of Massachusetts Non-Formal Education Project personnel, both in Amherst and in Quito, the following major questions were chosen as those whose answer would provide the information needed by decision-makers at the various levels (U.S. AID Washington, U.S. AID Mission to Ecuador, Univ. Mass. project personnel) and for the two purposes (summative and formative):

- (1) What does the U. Mass. non-formal education project purport to do?
- (2) How does the U. Mass. non-formal education project go about implementing its goals and objectives?
- (3) To what extent is the U. Mass. non-formal education project carrying out its intended objectives effectively?

(4) Can the project be replicated in other countries? If so, what conditions are most necessary to ensure success?

(5) What are the learning outcomes of selected educational materials developed by the U. Mass. non-formal education project?

(6) What are the characteristics of the more and the least effective materials developed by the U. Mass. non-formal education project?

(7) What are the characteristics of materials that work well with learners of what characteristics? What are the best matchings?

(8) What facilitator/teacher variables have affected the relative effectiveness of various materials?

(9) What are the motivational attributes of each of the five education games selected for in-depth experimental analysis in the evaluation?

(10) What changes in attitudes and behaviors are produced by each of the five educational games on a short-term basis?

(11) What sequencing factors or prerequisites are important for the five non-formal education games?

(12) What are the effects of replay frequency for each of the five non-formal education games?

(13) What is needed to develop effective non-formal education materials and programs in countries similar to Ecuador?

## The Evaluation Design

This section of the mid-year progress report describes the evaluation design, and its field implementation to date.

The evaluation design is intended for obtaining information that will answer in as objective a fashion as possible the 13 questions which the evaluation principally addresses. As such, the evaluation design has three major superordinate components:

- 1) Documentation of the U. Mass. non-formal education project activities which relate to the evaluation questions.
- 2) The experimental field implementation and evaluation of five of the U. Mass. non-formal education games that are among the most widely used or most widely accepted educational games.
- 3) The U. Mass. non-formal education intervention impact study.

Each of the three major superordinate components of the evaluation design, and the progress made to date with respect to each of them, is described below.

- 1) Documentation of the U. Mass. non-formal education project activities which relate to the evaluation questions.
  - a) Compilation of a "library" of relevant documents and materials.
  - b) Studying, summarizing, and analyzing these documents and materials to answer evaluation questions.
  - c) Interviews with relevant persons involved with the U. Mass. non-formal education project.

d) Field observations, quantitative and qualitative data gathering and analysis.

These four categories are elaborated below.

A large number of documents produced by the U. Mass. project staff and by others which relate to the U. Mass. project have been collected, studied, and analyzed in light of the evaluation questions. In addition, sample copies of materials developed by the U. Mass. project have been collected and content-analyzed.

Numerous interviews with U. Mass. non-formal education project personnel, both in Amherst and in Quito have been conducted. Also, interviews with persons in institutions which have some relationship with the U. Mass. project have been conducted. These include officials from U.S. AID Washington, U.S. AID Mission in Quito, Ecuador Ministry of Education, Centro Ecuatoriano de Motivación y Asesoría, and former U. Mass. project staff.

Visits have been made to rural communities, both in the sierra (mountains) and the costa (coast), in which U. Mass. has introduced its program, and interviews with local participants in the U. Mass. programs have been conducted. Also several "facilitators" trained by the U. Mass. project have been interviewed.

A profile instrument to document systematically the activities of the U. Mass. non-formal education project in a sample of its rural communities has been developed, and a sample of U. Mass.-impacted communities has been selected for this purpose. The sample of U. Mass.-impacted communities includes both the coastal and the sierra areas.

In addition, two structured interview schedules have been developed to

document the U. Mass. project activities. The first one is designed to obtain even more information from individuals participating in the U. Mass. project. The second one is designed to obtain further information concerning U. Mass. project activities and to provide a structured means of completing the documents and materials "library."

2) The experimental field implementation and evaluation of five of the U. Mass. non-formal education games that count among the most widely used or most widely accepted educational games.

In order to provide accurate data concerning several of the evaluation questions, it is necessary to observe and measure in a controlled manner, from its inception, the introduction and implementation of selected educational materials following various sequences of introduction, in populations of various characteristics, and by leaders of various characteristics. Given the fact that the evaluation was not requested until after U. Mass. had passed its introduction, development, and implementation phases, and that several of the evaluation questions call for planned variations in introduction and implementation of selected materials, it has been necessary to provide in the evaluation design an experimental field implementation of the selected materials considering the conditions previously mentioned.

Concomitant with this planned introduction and implementation of selected U. Mass. non-formal education games, the objectives of each are measured in a pre - post fashion. The variations in introduction and implementation of the games are documented, the characteristics of the leaders introducing the games described, and the characteristics of the individual participants and the communities measured.

The following five non-formal education games have been selected for planned sequential field implementation and concomitant measurement of learning effects, attitude change, and community development:

- a) Hacienda (Game of Life), Sierra Version
- b) Hacienda (Game of Life), Coast Version
- c) Number Bingo (addition and multiplication)
- d) Syllable Dice
- e) Syllable Rummy

These five non-formal education games are introduced two per community, in the following sequence:

| <u>Sequence Code</u> | <u>Game Sequence</u>                     |
|----------------------|--|
| A.                   | Hacienda (Game of Life) - Number Bingo   |
| B.                   | Hacienda (Game of Life) - Syllable Rummy |
| C.                   | Hacienda (Game of Life) - Syllable Dice  |
| D.                   | Syllable Rummy - Syllable Dice           |
| E.                   | Syllable Dice - Syllable Rummy           |
| F.                   | Number Bingo - Hacienda (Game of Life)   |

The number of games in a sequence and the number of 2-game combinations included in this portion of the design had to be limited to the above six different sequences, given the temporal, financial and personnel constraints inherent in the present contract. These six different sequences, however, are considered to be adequate for answering the evaluation questions.

The six game sequences are introduced into two sets of six communities each in the Sierra and a set of six communities in the Costa,\* totalling

\*The U. Mass. non-formal education project has operated in two distinct geographical areas of Ecuador: Sierra (the mountain region) and Costa (the coastal region). The people from these areas vary widely with regard to their culture, life style, etc.

18 different communities in which the evaluation staff is introducing these five U. Mass. non-formal education materials while simultaneously measuring a large number of variables which relate directly to the evaluation questions.

The rural communities selected for introducing the non-formal education games and concomitantly measuring their effects have been selected according to the following criteria:

- 1) None of the communities impacted by U. Mass.
- 2) Being a small rural community (approximately 500 to 2,500 persons)
- 3) Not a community of migrants (since the evaluation calls for repeated participation in the treatment and repeated measures)
- 4) Mostly Spanish-speaking (There are some Quichua-speaking communities in two of the provinces from which the communities in the sample were selected)
- 5) Being similar to the communities chosen by U. Mass. for impact.  
(Similar in terms of economic development, size, geographical area, type of economy, social and educational development)

This portion of the evaluation design called for the selection of six rural communities in the province of Tungurahua, six rural communities in the province of Chimborazo, and six rural communities in the province of Guayas. The provinces of Tungurahua and Chimborazo are in the sierra and the province of Guayas is on the coast. These provinces were chosen for the sampling of our controlled study portion of the evaluation because the majority of the rural communities impacted by the U. Mass. project are in these three provinces.

The sampling design may be depicted as follows:

Sierra

| <u>Province</u>    | <u>Community</u> | <u>Game Sequence</u> | <u>Number of individuals Participating as Subjects</u> |
|--------------------|------------------|----------------------|--|
| <u>Tungurahua:</u> | #1               | A                    | <u>N</u> = 20  |
|                    | #2               | B                    | <u>N</u> = 20  |
|                    | #3               | C                    | <u>N</u> = 20  |
|                    | #4               | D                    | <u>N</u> = 20  |
|                    | #5               | E                    | <u>N</u> = 20  |
|                    | #6               | F                    | <u>N</u> = 20  |
| $\sum_i n_i =$     | <u>6</u>         | <u>6</u>             | <u>N</u> = 120   |

Chimborazo:

|              |          |          |                |
|--------------|----------|----------|----------------|
|              | #1       | A        | <u>N</u> = 20  |
|              | #2       | B        | <u>N</u> = 20  |
|              | #3       | C        | <u>N</u> = 20  |
|              | #4       | D        | <u>N</u> = 20  |
|              | #5       | E        | <u>N</u> = 20  |
|              | #6       | F        | <u>N</u> = 20  |
| $\sum_i n_i$ | <u>6</u> | <u>6</u> | <u>N</u> = 120 |

Coast

| <u>Province</u> | <u>Community</u> | <u>Game Sequence</u> | <u>Number of individuals Participating as Subjects</u> |
|-----------------|------------------|----------------------|--|
| Guayas:         | #1               | A                    | <u>N = 20</u>  |
|                 | #2               | B                    | <u>N = 20</u>  |
|                 | #3               | C                    | <u>N = 20</u>  |
|                 | #4               | D                    | <u>N = 20</u>  |
|                 | #5               | E                    | <u>N = 20</u>  |
|                 | #6               | F                    | <u>N = 20</u>  |
| $\sum_i$        | <u>6</u>         | <u>6</u>             | <u>N = 20</u>  |

The total number of communities in which the non-formal education games are introduced by the evaluation staff and their outcomes are measured sums to 18 communities (six per province), and the total number of individuals serving as subjects initially sums to 360.

The procedure for implementing the non-formal education games in the rural communities by the evaluation staff and the concomitant measurement is as follows:

After the communities are selected according to the criteria described above, an evaluation field worker spends a full week living in that community in order to:

1. Establish rapport with community members and community leaders.
2. Explain the nature of the project to community leaders and other community members and obtain their cooperation.
3. Conduct individual interviews for selecting 20 persons who will participate in the non-formal education games, serving as subjects

for the field experiment.

4. Administer the "pre-test" instrument individually to each of these 20 persons.
5. Fill out the "Community Demographic Profile" instrument for that community.
6. Implement the first non-formal education game in the sequence assigned to that community. Non-formal education game sequences are assigned to communities randomly.

Each game in each two-game sequence is played five times (led by the evaluation field worker) in each community, one game session a week. Thus in each community two games are played in sequence for a total of ten game sessions over a chronological time span of 10 weeks.

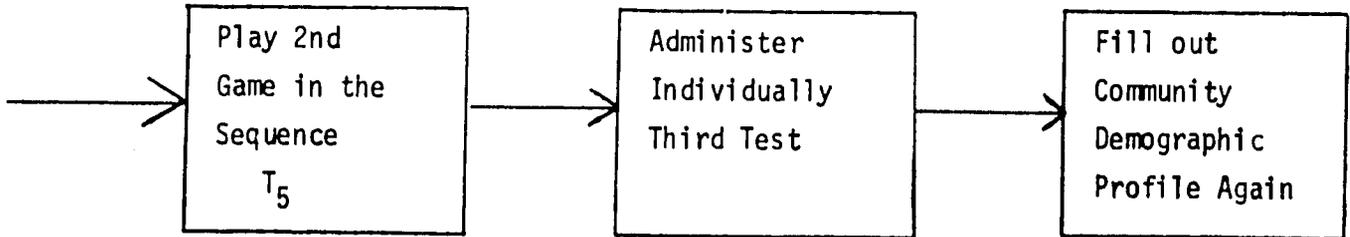
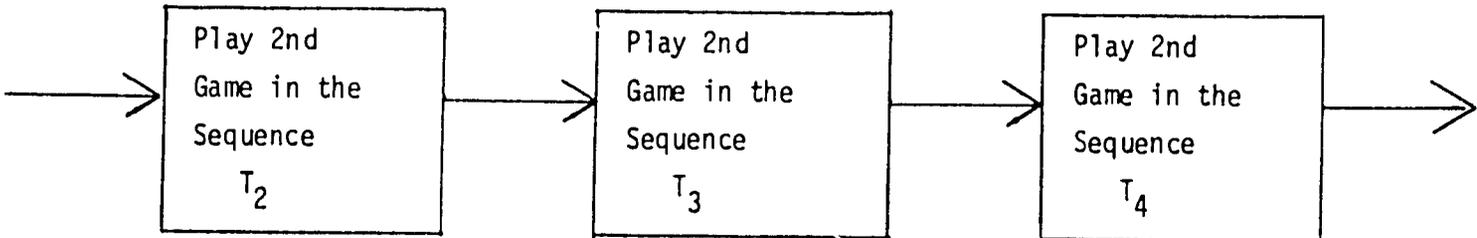
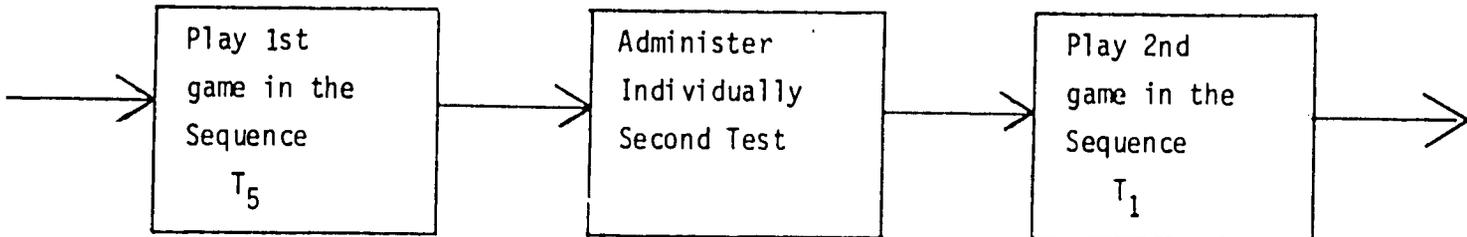
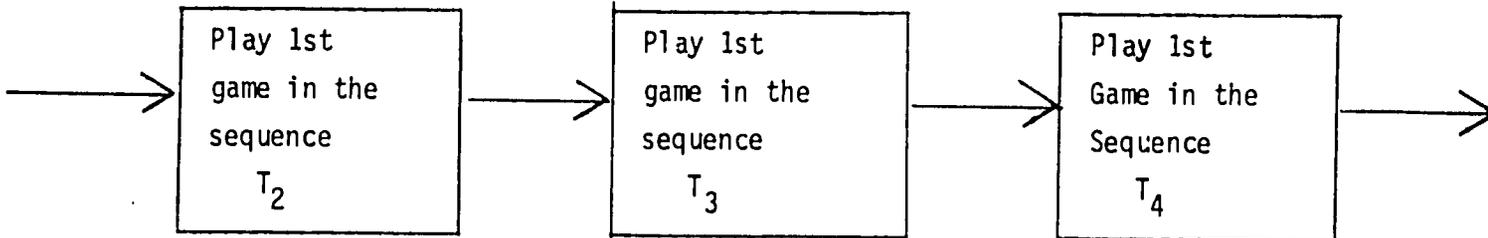
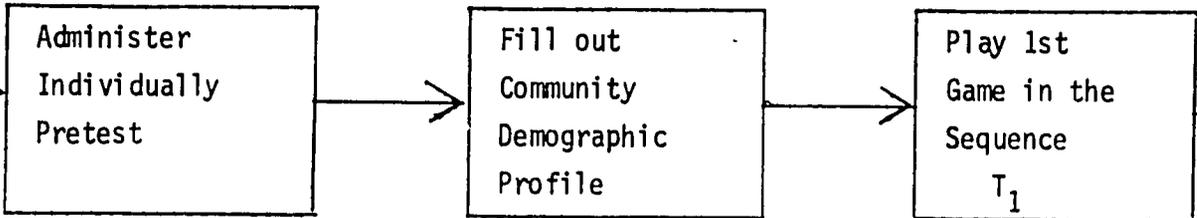
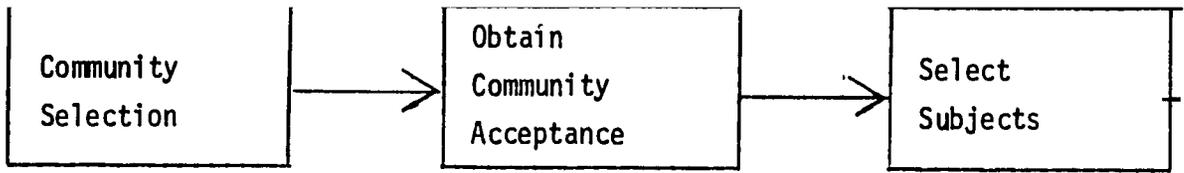
Individuals participating as subjects are administered individually a "pre-test" before the first session of the first game in the sequence for his/her community; a "second test" after that first game has been played five times consecutively by the evaluation field worker; and a "third test" after the second game in the sequence has been played five times led by the evaluation field worker.

An N of 20 per community was decided upon in order to account for any attrition occurring over the 10 week period. Even with an attrition rate of 40% per community one would be left with an N of 12 people per community for the "third test". This would still allow statistical treatment of the data. Attrition data are also being collected (i.e., reasons for attrition and characteristics of drop-outs).

Any person who wishes to participate in the games is welcome. How-

ever, only those selected as "subjects" receive the repeated testing. The same subjects tested time #1 are tested time #2 and #3. The same evaluation field worker who introduces the procedure into a community also performs the rest of the procedures for that community, whenever possible, in order to provide continuity. In addition to the individual testing and the Demographic Community Profile, each evaluation field worker keeps a structured field diary in which he/she documents the exact procedures followed in the implementation of the games and any other relevant events or changes in the community or in individuals.

The procedures followed for the experimental field phase of the evaluation for each community may be depicted in a flow chart as follows. The flow chart is to be read from left to right, indicating the chronological sequence of events.



The present status of the evaluation with regard to the experimental field implementation of the five U. Mass. non-formal education games and the controlled measurement of their impact is presented in the following table.

**TABLE:** Status of the "Experimental Field Implementation" Phase of the Evaluation as of December, 1974.

| Province                | Community   | Demographic Profile Completed | Pretest Completed | N on Pretest | No. of times 1st Game Administered | Second Test Completed | N on Second Test | No. of times Second Game Administered | Game Sequence    |
|-------------------------|-------------|-------------------------------|-------------------|--------------|------------------------------------|-----------------------|------------------|---------------------------------------|------------------|
| Tungurahua:<br>(Sierra) | Rumipamba   | Yes                           | Yes               | 20           | 5                                  | Yes                   | 12               | 5                                     | Hacienda - Bingo |
|                         | Hipolongo   | Yes                           | Yes               | 20           | 5                                  |                       |                  |                                       | Hacienda - Dice  |
|                         | Yayuligüi   | Yes                           | Yes               | 22           | 2                                  |                       |                  |                                       | Rummy - Dice     |
|                         | San Andrés  | Yes                           |                   |              |                                    |                       |                  |                                       | Hacienda - Rummy |
|                         | San Pedro   | Yes                           |                   |              |                                    |                       |                  |                                       | Dice - Rummy     |
|                         | Urbina      | Yes                           | Yes               | 3            |                                    |                       |                  |                                       | Hacienda - Bingo |
| Tumborazo:<br>(Sierra)  | Asunción    | Yes                           | Yes               | 18           | 5                                  | Yes                   | 16               |                                       | Hacienda - Bingo |
|                         | San Isidro  | Yes                           | Yes               | 16           | 2                                  |                       |                  |                                       | Dice - Rummy     |
|                         | La Libertad | Yes                           | Yes               | 15           | 2                                  |                       |                  |                                       | Bingo - Hacienda |
| Suayas:<br>(Coast)      | Palmar      | Yes                           | Yes               | 17           | 5                                  | Yes                   | 14               | 2                                     | Hacienda - Rummy |
|                         | San Pablo   | Yes                           | Yes               | 17           | 5                                  | Yes                   | 14               | 2                                     | Rummy - Dice     |
|                         | Olón        | Yes                           | Yes               | 15           | 4                                  |                       |                  |                                       | Hacienda - Dice  |
|                         | Dos Mangas  | Yes                           | Yes               | 20           |                                    |                       |                  |                                       |                  |
|                         | Barcelona   | Yes                           | Yes               | 20           |                                    |                       |                  |                                       |                  |

In four of the 14 communities in which the experimental implementation of the non-formal education games has begun, it has been necessary to discontinue the experiment. The reason for discontinuing the implementation of the non-formal education games provides very useful evaluation data which will be presented in the final report; meanwhile, an attempt has begun to replace these communities in order to have complete longitudinal data in a total of 18 communities as specified in this portion of the design.

Measurement Instruments for the experimental field implementation phase of the evaluation.

This section describes the instruments developed to measure relevant aspects of the experimental field implementation phase of the evaluation.

- a) Demographic Profile of the Communities. This instrument, filled out for each community in which the non-formal education games are introduced by the evaluation staff and their impact measured, describe in detail the demographic, social, political, economic, racial, linguistic, religious, and other relevant characteristics of the community.
- b) Individual Testing. Each subject participating in the experimental portion of the evaluation is measured individually before and after each non-formal education game is led by the evaluation field worker five times in that community. These individually administered tests cover the following areas which are directly related to the objectives of the five non-formal education games:

1) Literacy:

- a) Letter recognition
- b) Syllable recognition
- c) Word recognition
- d) Oral reading
- e) Writing

2) Numerical Skills:

- a) Number recognition
- b) Addition
- c) Subtraction
- d) Multiplication
- e) Division

3) Attitudes and motivation (conscientization)

The literacy and numerical skills tests and subtests are criterion-referenced tests. The attitudes test items are attitude scales and structured behavioral descriptions.

It should be noted that even though the U. Mass. non-formal education Math Bingo games do not have as stated objectives the development of either subtraction or division skills, these have been included in the individual tests for the following reasons:

1) To detect any growth in these abilities due to generalization of learning or to stimulation of the individual to learn outside the context of the games; and

2) To detect any growth or "awakening" of these skills due to playing

Bingo itself or any of the other games in which a number of faculties may be put into play.

- c) Field diaries. Each evaluation field worker introducing the non-formal education games into the rural communities and administering the individual tests and the demographic profile keeps a detailed documentation of the procedures employed in the implementation of the games and a documentation of any observable changes in the community.

These "diaries" are completed during each visit to a community. They are completed according to the following structure:

- a) Description of the procedures followed
- 1) Introduction to the community
    - Contacts with leaders and authority figures
    - Contacts with other community members
    - General meetings with the community
    - Selection of subjects
  - 2) General reactions to the experiment by the community
  - 3) Other Observations
- b) Administration of the instruments
- Test administration (a description of the conditions under which the tests were administered, problems encountered)
  - Demographic profile (sources of information, problems encountered)
  - Other observations
- c) Implementation of the games
- Step-by-step description of the procedures followed

d) Observations

- 1) Agencies which ave intervened in the community and their influence.
- 2) General acceptance by the community.
- 3) Other descriptive data to complement or elaborate the "demographic profile."

Subject characteristics and other individual background data

Individual data on subject characteristics and background relevant to the evaluation questions are collected. In addition, data on each participant's attendance at each session are collected. Also, in drop-out cases, data are collected regarding the reasons and circumstances for the desertion.

Conceptual maturity

Growth as measured by individual tests similar to the ones employed in the present portion of the evaluation design may be a function of the individual's level of conceptual or mental maturity. Therefore, it is a good idea to control for this variable in the analysis and interpretation of data such as the ones collected in the individual tests. For this purpose, and also in order to detect any growth in general mental maturity resulting from the use of the non-formal education games, each person participating as subject in the experimental field implementation portion of the evaluation is administered the Draw-A-Man Test. As a non-verbal test of conceptual or mental maturity, the Draw-A-Man Test is particularly appealing

for populations such as the ones under study in the present evaluation, since it overcomes many of the cultural biases typical of many tests of mental maturity. The Draw-A-Man Test is the second most widely used psychological test in the U.S.

### The Control Group

In any design involving repeated testing, it is always appropriate to compare results of the treatment groups (in the present case the "treatments" refer to the use of the five U. Mass. non-formal education games) with results on the same measures obtained by a "control" group. The control group is subject to the same measurements as the treatment groups, but in contrast to the treatment groups, the control groups do not receive the treatment.

For purposes of obtaining a control group, a sample of persons of similar characteristics and from similar communities as the ones receiving the treatments are being selected. The control or comparison group is administered the same individual measures as the treatment groups, following the same chronological sequence and time span intervening between measures. The control group will not participate in the non-formal education games.

Field testing the instruments. The Demographic Profile and the Literacy, Numerical Skills, and Attitude Tests were field tested initially before using them in the evaluation sample communities. They were field tested in Llano Grande, a rural community approximately 45 minutes from Quito by bus. In general, these instruments were found adequate except for minor wording changes which were made to make them more appropriate for the subject populations.

Following the application of the tests in a few communities in the evaluation sample, it was discovered that the non-formal education sessions attracted also individuals with several years of formal education. These individuals reached near criterion level scores on the Literacy and Numerical Skills tests. Therefore, several items of even higher difficulty have been added to the Literacy and Numerical Skills Tests, raising the criterion level ceiling.

In subsequent communities, this version with the higher ceiling in these two tests will be used.

Three major scoring systems have been developed for coding results on the Literacy Test. These reflect criterion performance level on the following:

- 1) Functional literacy
- 2) Standard Spanish

Additional scoring systems have been developed for allowing appropriate comparisons between the original and revised versions.

- 3) The U. Mass. non-formal education intervention impact study

This aspect of the evaluation is being conducted through the following means:

Samples of rural communities in which U. Mass. has intervened have been selected: four in the Coast and four in the Sierra. In these communities a variety of information will be collected relevant to the evaluation questions.

The following information-gathering instruments have been designed for collecting the necessary information in these communities:

- a) A community demographic profile.
- b) A profile of the activities conducted by U. Mass. in these communities.
- c) Structured interviews with the facilitators from these communities.
- d) Structured interviews with other members of these communities who participated in the activities led by the U. Mass. facilitators.
- e) Selection of a sample of 15 persons from these communities who participated in the activities led by the U. Mass. facilitators and administering them the following instruments:
  - 1) Literacy Test
  - 2) Numerical Skills Test
  - 3) Attitudes, Motivation, and Behavior Questionnaire

The latter three instruments are the same as the pretest administered to the subjects in the experimental field implementation of the games portion of the evaluation (described earlier). The procedures for their administration also are the same as the ones followed for the pretests in the communities in the sample for the other aspect of the evaluation.

Since the communities chosen by the present evaluation for the implementation of the U. Mass. games by the evaluators are similar to the U. Mass. communities, one may assume that any significant difference between the performance on the pretests by individuals in the experimental implementation phase of the evaluation and the performance of persons in the U. Mass.-impacted communities (the difference between groups of individuals of similar characteristics) will reflect the influence of the U. Mass. program. Of course, this difference must be interpreted in light of the interaction among a number of other relevant variables.

Difficulties Encountered in the  
Field Implementation of the Evaluation.

Several difficulties have been encountered in the field implementation of the evaluation.

Financial constraints. The amount allocated to several items in the budget have been grossly underestimated in light of the reality of the evaluation in the field. These include the following:

The amount of money allocated in the budget for the Ecuadorean field workers was severely underestimated in light of the current economic situation in Ecuador. Adequate personnel just may not be found for the salaries allocated.

The amount of money allocated for travel in Ecuador was also enormously under represented. A total of \$200.00 was allocated for travel in Ecuador! Considering the fact that over 22 rural communities in isolated and distant areas of Ecuador comprise the samples in the evaluation design and that the design calls for multiple trips to these communities over a period of several months, the amount of \$200.00 now seems ridiculous.

There are also difficulties encountered in supervising and motivating the work of the field workers. In order to ensure a work of high quality much time and effort is expended in assuring quality control in all aspects of the evaluation. Whereas the present evaluation calls for highest standards in the quality of the work performed, it appears that the work habits of Ecuadoreans such as the ones hired

for the present project necessitates constant supervision to assure that the work is performed on schedule.

The postal system in Ecuador has proven slow and unreliable.

The conditions in the field are extremely harsh. The hygiene facilities in rural communities are minimal.

Various members of the evaluation staff, including Ecuadoreans have fallen ill several times. Many of the communities in the present sample cannot be reached by modern means of transportation, including buses. Typically, one travels from the urban centers by buses crowded with people, animals, and produce to the nearest point on the bus route to the community. Then it is usually a long walk (several miles) to the community. Because of the uneven terrain in many parts of Ecuador and the climactic conditions, these long walks often involve steep slopes in the rain, in the mud, and in extreme cold weather or extreme hot and humid weather (Coast). Sometimes, inhabitants of rural communities are suspicious and in some cases hostile to strangers.

Many of these communities lack electricity or potable water. Since there are no hotels, certainly, and no place to sleep, evaluation staff members must carry sleeping bags and sleep on the floor during their stay (sometimes weeks at a time) in the communities.

The conditions noted above demand much time and effort both in travel and in supervision under difficult physical conditions. Despite these

conditions and although many of these were not foreseen in the budget, the evaluation is proceeding well and only 2 to 3 weeks behind the schedules set forth at the beginning of the field work. This, however, has called for much work above and beyond that reflected in the budget.

### Personnel

This section presents the personnel involved to date in the evaluation of the U. Mass. non-formal education project in Ecuador and a summary of their activities to date.

#### Principal Investigator

Dr. Marvin C. Alkin is Director of the UCLA Center for the Study of Evaluation and Professor, UCLA Graduate School of Education. Dr. Alkin was responsible for the pre-contractual and contractual arrangements that led to the development of this contract. He also directed the writing of the proposal for this contract. He was responsible for selecting and hiring the Project Director and the Statistical and Design Analysis Consultant. He has provided consultative input into the development of the evaluation design and its field implementation. Dr. Alkin traveled to Quito in August, 1974 to supervise the initial aspects of the field implementation. He has acted as principal liaison between the Center for the Study of Evaluation and the Contractor.

### Co-Principal Investigator and Project Director

Dr. Luis M. Laosa is Co-Principal Investigator and Project Director of the evaluation. He is also Assistant Professor, UCLA Graduate School of Education. Dr. Laosa has been responsible for developing the evaluation design, sampling criteria, and evaluation instruments. He also participated in writing the proposal for this contract. Thus far, he has spent a total of 10 weeks in Ecuador directing the development and implementation of the evaluation. He spent six weeks in Ecuador during the months of August and September and again three weeks during the months of December and January. He was responsible for establishing the UCLA Center for the Study of Evaluation Overseas Site headquarters in Quito; the selection and hiring of the assistant investigator, the Ecuadorean coordinator, the Ecuadorean evaluation assistants, the Ecuadorean bilingual secretary, and the Ecuadorean consultant. He supervises the work of the assistant investigator and the Ecuadorean coordinator, who in turn supervise the work of the evaluation assistants.

### Assistant Investigator

The selection and hiring of the American Assistant Investigator followed a systematic search for the best possible person to fill this position. Affirmative action guidelines were followed.

The criteria for selecting the Assistant Investigator were:

- a) Fluency in the Spanish language
- b) First hand knowledge of Latin American cultures
- c) Training and/or experience in Latin American education.
- d) Ability and desire to spend a full year in Ecuador, working often in isolated rural areas.

Mr. Peter White was hired as Assistant Investigator in July 1974. He obtained his M.A. in Latin American education and history from UCLA. He has been continually in Ecuador since August. He has been responsible for supervising and managing the execution of the evaluation design. He is also responsible for the various on-site administrative and managerial duties and for serving as liason between the UCLA Ecuador office and the Center for the Study of Evaluation in Los Angeles. He is also responsible for keeping U.S. AID Quito Mission personnel informed of the progress of the evaluation.

#### Ecuadorean Coordinator

The selection and hiring of the Ecuadorean evaluation personnel and Ecuadorean consultant (Ecuadorean coordinator, Ecuadorean evaluation assistants, and Ecuadorean consultant) followed a systematic search in Ecuador for the best possible persons to fill these positions. Many individuals were personally interviewed and many Ecuadorean institutions contacted, by the Project Director, before final selection. All candidates who applied for the positions of Ecuadorean Coordinator and Ecuadorean evaluation assistants were personally interviewed jointly by the Project Director and the Ecuadorean consultant.

The criteria for selecting the Ecuadorean Coordinator were:

- a) Experience in educational evaluation in rural areas of Ecuador.
- b) Experience in supervising work of others.
- c) Ability to organize evaluation data to answer evaluation questions.
- d) Ability and desire to travel and spend prolonged periods of time

(2-3 weeks at a time) in isolated rural areas.

e) Ability to keep his/her work and that of others on schedule.

Senorita Pilar Nuñez is the Ecuadorean Coordinator. She was hired Sept. 16, 1974. She has had previous experience in educational evaluations in Ecuador, some of which has been financed by U.S. AID. She came highly recommended by U.S. AID Mission personnel in Quito and by Dr. Donald Swanson, the president of an American evaluation firm in Quito. Her major responsibilities in the present evaluation project have involved supervising and coordinating the field implementation of the evaluation design.

#### Ecuadorean Consultant

The criteria for selecting the Ecuadorean consultant were:

- 1) A high degree of expertise and experience in conducting educational evaluation in rural areas of Ecuador.
- 2) A high degree of knowledge and experience with the culture and life style of rural campesinos in Ecuador.
- 3) Knowledge and experience with non-formal education.
- 4) Ability to train and provide consultative assistance in evaluation in the non-formal education area.

Sr. Anibal Villacis is the Ecuadorean consultant. He is a member of the staff in CEMA (Centro de Motivación y Asesoría). CEMA is the best educational consulting organization in Ecuador. Sr. Villacis also came highly recommended to us by U.S. AID officials in Quito. Previously he has conducted training and evaluation projects financed by U.S. AID. As the

Ecuadorean consultant he provided consultative services and training of the evaluation assistants during the development of the evaluation design. He also continues to provide periodic consultative assistance to the Ecuadorean coordinator and the assistant investigator. Sr. Villacis' consultative services have been contracted through CEMA, the consulting firm of which he is a member.

#### Ecuadorean Field Workers (Evaluation Assistants)

The criteria for selecting Ecuadorean evaluation assistants were:

- a) If possible, native of the general area where he/she would be working; otherwise, to have had several years of experience living or working in that area. This criterion was necessary due to the sharp cultural and language differences in the different geographical areas of Ecuador.
- b) To have had experience working or living in rural communities in Ecuador.
- c) Ability and desire to work with peasants and to live with them.
- d) To be able to travel and spend prolonged periods of time (3-4 weeks at a time) in rural areas, often working in the evenings (since peasants work in the fields during the day) and on weekends.
- e) Some experience in social science research or evaluation (data gathering).
- f) Ability to follow a work calendar.
- g) Ability to follow detailed instructions carefully.

Initially, five Ecuadorean evaluation assistants were selected and hired. These are Jorge Proaño (hired Sept. 2, 1974), Nancy Llunguin (hired Sept. 2, 1974), Luis Alfredo Guaman (hired Sept. 2, 1974), Eddy Maldonado (hired Sept. 2, 1974), and Edmundo Fernandez (hired Sept. 9, 1974). Four of them worked previously with the Servicio Ecuatoriano de Voluntarios (SEV) an Ecuadorean organization similar to VISTA. They have all had previous experience in data collection and/or in working in rural areas in communities similar to the ones in the evaluation sample. Two of them (Maldonado and Guaman) have been replaced by Klever Ruiz and Marcelo Unda Martinez (both hired Nov. 18, 1974), both of whom have had previous experience in data collection in rural communities through their work with CEMA. Guaman's resignation was due to his obtaining financial aid and admission into a U. S. University to study veterinary medicine. Maldonado found the work "too exacting" for her work habits, and it was mutually decided it would be best for her and for the project to terminate her contract. An additional evaluation field worker, Julia Barba was hired Dec. 13, 1974, since the work involved called for this addition at that point in time.

#### Statistical and Design Analysis Consultant

Dr. Jacqueline Kosecoff is the statistical and design analysis consultant. She is a member of the staff of the Center for the Study of Evaluation. She has provided input into the development of the evaluation design. She will be responsible for coordinating the keypunching, verification, computer programming, and analysis of the quantitative data once it is collected.

### Secretary for the Overseas Site Office

The criteria for selecting the secretary for the overseas site office were:

- 1) Training as a Spanish-English bilingual secretary.
- 2) Typing and shorthand.
- 3) Ability to organize files.
- 4) Spanish-English oral and written fluency.
- 5) Ability to assist in financial accounting.

Senorita Patricia Goetschel was hired as of August 26, 1974 as the bilingual secretary for the overseas site office.

### Training of Evaluation Project Personnel

The evaluation assistants (Ecuadorean field workers), Ecuadorean coordinator, and assistant investigator have received preservice training with regard to:

- 1) General principles in evaluation.
- 2) General principles of data collection.
- 3) Non-formal education.
- 4) Culture, economy, socio-political organization, and life style of the communities in which they would be working.
- 5) Gaining entrance and acceptance in rural communities.
- 6) Interview techniques appropriate for Ecuadorean peasants.
- 7) Documentation and report writing.

- 8) The use of the instruments used in this evaluation.
- 9) The use of the five U. Mass. non-formal education games selected for the control experiment portion of the evaluation.
- 10) The U. Mass. non-formal education project.
- 11) The U. Mass. "facilitator model."

The preservice training period lasted three weeks. Training in each of the topics presented above was conducted by the following individuals:

- 1) The Project Director
- 2) The Ecuadorean Consultant
- 3) U. Mass. non-formal Education Project Staff.

Techniques employed in the preservice training of the evaluation staff have included lectures, presentations, seminars, discussion sessions, role playing, sociodrama, and field practice. A rural community near Quito, Llano Grande, was chosen for supervised pre-service field practice and for initial field testing of the instruments.

It is important to note that the evaluation assistants have been trained in the introduction and implementation of the U. Mass. non-formal education games by U. Mass. non-formal education project staff. This has been done in order to ensure the highest possible degree of isomorphism in the approach and use of these techniques employed by the evaluation project staff and that intended by the U. Mass. project.

The same rigorous preservice training program has been followed with the evaluation assistants who were hired more recently. They have been trained by the Ecuadorean coordinator, assistant investigator, Ecuadorean Consultant, other experienced evaluation assistants, and U. Mass. project staff.

#### Overseas Site Office

An overseas site office to serve as the Ecuadorean headquarters for the field phase of the evaluation was set up in August. A three-room third-floor section of an old house in downtown Quito was rented to serve as office space. It has been equipped with two desks, three tables, chairs and a filing cabinet which has been kindly loaned by U.S. AID Quito Mission. The office address is Pasaje Bernal 170, Quito. The mailing address (P.O. Box) is Casilla 3851, Quito, Ecuador. The phone number is 512-424.