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ABSTRACT

Observations of children's daily activities and interviews with the children's caretakers provided information on preschool children's informal home education in Utuado, Puerto Rico. Three kinds of skills were examined: literacy, chores, and rule-bound games. The unit of analysis was the "Potential Learning Activity" (PLA), a behavior/sequence of behaviors that can result in learning on a specific topic. PLAs were identified as involving observation, imitation, or performance. Literacy PLAs (reading, writing, counting, and preliteracy) were the most frequent skills observed, and games were the least frequent. Activities involved performance more often than observation and imitation. About half of the literacy and the chore PLAs were done alone, while all game PLAs were done with others. Children initiated performance and participation in literacy and game PLAs more than in chore PLAs. The PLA interactions involved the initiation-reply-evaluation sequence of formal education, but unlike formal instructor-initiated education processes, PLA interactions were responses to children's behavior and speech and dealt more with process than with facts. In urban Utuado, children's informal education, like that in unindustrialized countries, emphasizes participatory learning and learner-initiated learning opportunities, but places less emphasis on observation, imitation, and demonstration as learning methods. (Author/MJL)

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Puerto Rican Children's Informal Education at Home

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Evelyn Jacob, Principal Investigator

Center for Applied Linguistics, Washington, D.C.

February, 1982

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Fuerto Rican Children's Informal Education at Home  
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Executive Summary

Informal education is the focus of this research for both theoretical and practical reasons. Characteristics and effects of formal education have been studied widely. However, much human education continues to occur outside formal educational settings. In order to be more complete, theories of human learning and cultural influences on learning need to take informal education into account. On a practical level, it is hoped that information about informal education will provide potential solutions to problems in our schools.

Most information about informal education has come from anthropologists' descriptions of non-industrialized societies; we know very little about informal education in industrialized societies. Studies of informal education in industrialized societies are needed for practical applications in our schools and to extend our understanding of the variability within informal education.

Data previously collected in the town of Utuado, Puerto Rico, provided an opportunity to use an existing data base to examine this issue. The primary data used for the analyses presented here are detailed observations and audio recordings made of the range of the home activities of a sample of twenty-nine kindergarten-aged children. A total of ninety minutes of observation was done per child over four observation periods. In the sample there are ten middle class boys, four middle class girls, seven lower class boys, and eight lower class girls. The mean age of the children is six years three months, with a range between five years seven months and six years eight months. Ethnographic field notes and interviews with the children's female caretakers were also examined.

The goals of this study are both methodological and substantive. One aim is to develop methods for identifying informal education episodes in "stream of behavior" data that document children's everyday lives. The substantive goals including the following: describe

the characteristics of children's informal education for three skills, describe the context of these skills, determine if the generalizations developed about informal education in non-industrialized societies are valid for children in an industrialized society, and determine the relationships between type of skill-to-be-learned and the characteristics of informal education episodes. A final goal is to conduct a preliminary analysis of the instructional interactions that occur during informal education episodes.

The three skills examined are literacy, chores, and rule-bound games. To identify informal education episodes of these skills within "stream of behavior" data, I developed the notion of "potential learning activity" (PLA). By this I mean a behavior or sequence of behaviors that can result in learning on a specified topic. We identified and delimited within the observations all occurrences of the target children's PLAs for each of the three skills. Our general rule was to include all instances when a target child performed an activity related to the skills, explicitly watched or imitated another doing such an activity, or was the object of verbal or nonverbal instruction in the skill. PLAs were classified as involving observation, imitation, or performance (i.e., actually doing an activity related to the skill). Performance PLAs were further divided into those the target children did alone and those they did with others.

Of the three skills, literacy PLAs are the most frequent (N=62), chores are the next most frequent (N=38), and games are the least frequent (N=28). I will describe the content and context of the PLAs for each skill separately before comparing quantitative characteristics across the three skills.

Literacy artifacts are a natural part of the home, community, and school settings in which the kindergarten-aged children move. Literacy artifacts were observed in all the children's homes and some of the children's caretakers reported having as many as 300 books. Among literacy PLAs, very few involve observation or imitation; almost all of the literacy PLAs involve the target children actually performing an activity related to literacy. Four different types of activities are included as part of literacy: reading, writing, counting,

and preliteracy. In most PLAs the target children do only one of these activities during a PLA. Counting occurs most frequently, followed by reading, then preliteracy, and finally writing. In about half of the performance PLAs the target children do the activities alone and in the other half they do them with others.

Because they are the most frequent type, performance PLAs are described in more detail. In performance PLAs involving reading a wide variety of artifacts are used: playing cards, comic books, newspapers, books, and other objects such as gum wrappers. In reading alone the children usually look at the artifacts without reading aloud. Children read with others while playing games, asking someone what was written on the artifact, and reading aloud from school notebooks. Counting PLAs usually involve the children counting aloud in ordinal sequence the number of objects in front of them. The objects counted include toys, buttons, flower petals, and photographs. Counting PLAs done with others also involve the target children in counting as part of games. Preliteracy PLAs done alone include drawing, coloring, and putting together puzzles. Preliteracy PLAs done with others include doing puzzles, coloring, and playing linguistic games. There is only one writing performance PLA. During it the target child sits alone at the kitchen table and copies words into her school notebook.

The second skill examined is chores. As in other industrialized settings, chores in Utuado are not a direct preparation for the children's major adult economic roles or a major contribution to the family's economic life, though they do contribute to the comfort of the family by maintaining the household. In chore PLAs, observation and imitation occur infrequently; almost all are performance PLAs. About half of these are done alone and half with others. The types of chores done alone and chores done with others are similar. The most frequent include carrying something to another location in the house, throwing something in the trash, washing a dish, sweeping the floor, picking up toys, and cleaning.

The third skill examined is rule-bound games. Since the observations that form the corpus under examination were collected during the summer between kindergarten and first grade the children

had a fair amount of freedom to determine their activities and spent a great deal of time in play. Observation and imitation never occur during these PLAs; all involve the children actually playing a game with others. Many games are played, including cooperative circle games, games that involve listening carefully to someone else's speech and responding with the appropriate behavior, games involving marbles or billiard balls, tag games, as well as card and board games.

Other characteristics of the PLAs were examined in a comparative perspective, providing information about the relationship between skill-to-be-learned and the characteristics of informal education episodes. I found some similarities and some differences across the three skills. Skill does not seem to significantly affect type of informal education: almost all informal education episodes are performance PLAs, observation and imitation PLAs are rare. Skill does not seem to affect the proportion of people older than the target child who are involved in the PLAs; over three-fourths of the others in the PLAs are older than the target children. Some other characteristics related to the people participating in the PLAs are affected by skill. Literacy and game PLAs have similar patterns in that the target children themselves initiate about half of the performance PLAs done with others and they initiate their own participation in these PLAs over 90% of the time; in chore PLAs the target children initiate one fourth of the performance PLAs done with others and they initiate their participation in only about one third of these PLAs. Literacy and game performance PLAs are also alike in that most of the non-target persons in the PLAs are friends and relatives other than the target children's parents and grandparents; in chore PLAs the targets' parents and grandparents account for most of the non-target persons involved. Literacy and chore PLAs are different from game PLAs in that approximately half of the performance PLAs are done alone and half were with others; in game PLAs all are done with others. Skill is definitely related to the frequency and length of the PLAs. Literacy PLAs occur more than twice as often as game PLAs. Game PLAs done with others are the longest (mean = 6.7 minutes) and chore PLAs are the shortest (mean = 2.1 minutes); literacy PLAs have a mean of 3.4 minutes. Skill is also related to the number and characteristics of the target

children involved in the PLAs. Middle class children are more likely to do literacy PLAs, girls are more likely to do chore PLAs, and boys are more likely to do game PLAs.

The second comparative question asked in the study is whether the generalizations developed for informal education in non-industrialized societies are valid for informal education in industrialized societies. I found that the characteristics of informal education for kindergarten-aged children in Puerto Rico are both similar and dissimilar to informal education as described for nonindustrialized societies. In both settings, participatory learning is important, the learner is responsible for initiating opportunities to obtain knowledge or skills, and instructors are relatives or close friends. Differences seem to exist in the area of method. In the Puerto Rican data examined here observation, imitation, and demonstration are not the primary methods employed whereas these are important methods in non-industrialized settings. Also, the role of the social contribution of the learner does not seem to be as important in Puerto Rico as it is in non-industrialized societies.

The final goal of the study is to provide a preliminary analysis of instructional interactions occurring during the PLAs. I was interested in determining if one particular form (the three-part sequence of initiation-reply-evaluation that is so characteristic of formal education) occurs during informal education episodes in Puerto Rican children's homes and, more broadly, I wanted to examine several characteristics of the instructional interactions. The initiation-reply evaluation sequence does occur in the PLAs, but very infrequently; the forms that do occur vary widely. Two characteristics of the initiation-reply-evaluation sequence in schools are that they are initiated by the instructor and deal primarily with factual information; the instances of this sequence occurring in the PLAs also have the same characteristics. However, most of instructional interactions in the PLAs have very different characteristics. Most are not initiated by the instructor, but are responses to the target children's behavior or speech. And most deal with process, i.e., how to do something, rather than with facts. These data suggest that the differences in the forms used in instructional interactions in informal and formal education settings may be related to underlying differences in the approach to and content of education in these settings.



The degree to which instructional interactions are responses to the children's behavior, and the degree to which the target children initiate the PLAs and their own participation in them is consistent with attitudes the caretakers of the children expressed during interviews and participant observations in connection with their notion of capacidad. Capacidad is a complex concept that refers to a person's present abilities, social maturity, and his/her readiness to learn more complex skills or social behavior. The caretakers said that young children have little or no capacidad and that as they gain experience they increase their capacidad little by little. Children vary in their capacidad; some learn early and some later. Caretakers said that one cannot force children to learn if they do not have the capacidad to do it.

The limits of the data base as well as the time and money available for this study placed many restrictions on the analyses that could be performed. Many questions remain unanswered. Some will be the focus of future analyses; some cannot be answered within the context of this existing data base. However, the results presented in this report provide a needed step in our understanding of the varieties of informal education.



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## Chapter 1

### INTRODUCTION

This report presents a method for identifying informal education episodes in "stream of behavior" data and provides a description of the informal education environments of kindergarten-aged children in Puerto Rico. Data previously collected in the town of Utuad6 provided an opportunity to use an existing data base to study these issues. The primary data used are detailed observations and audio recordings of the home activities of a sample of twenty-nine kindergarten-aged children. Ethnographic field notes and interviews with the children's female caretakers were also examined. Descriptions are provided of the children's informal education for three skills (literacy, chores, and rule-bound games), the contexts of these skills, and the instructional interactions that occur during informal education episodes. Generalizations developed about informal education in non-industrialized societies are examined to see if they are valid for children in an industrialized society.

The characteristics of educational processes (i.e., teaching and learning) has been a focus of research from a variety of approaches. However, until recently most of the effort in the U.S. has been directed to controlled laboratory studies (e.g., Hess and Shipman 1965) or to studies of formal school settings (Mehan 1979; Shuy and Griffin 1978). But these approaches provide a limited data base. Humans had been teaching and learning new skills and knowledge long before there were formal schools or controlled laboratory settings. Children in the U.S. develop cognitive, linguistic and cultural abilities before going to school; individuals continue to learn outside school settings both during their school years and after they have completed formal training. Teaching and learning that occurs outside formal school settings is usually called "informal education."

In the past five years there has been increasing interest in the characteristics of informal education for several reasons.<sup>1</sup> First,

it represents a major gap in our knowledge about human education. In order to be more complete, theories of human learning and cultural influences on learning need to take informal education into account. Second, it is hoped that information about informal education will provide potential solutions to problems in our schools (see Childs and Greenfield 1980, Moore 1981).

Anthropologists have provided descriptions of informal education from many traditional, non-industrialized societies (e.g. Fortes 1938, Mead 1928; Whiting 1941; O'Neale 1932; Middleton 1970). In their reviews of many of these studies, Scribner and Cole (1973) and Greenfield and Lave (1981) summarize certain generalizations about the methods used in informal education:

1. Learning is primarily by observation and imitation (in contrast to learning that is acquired primarily through oral instruction),
2. Participatory learning is an important method,
3. Teaching is primarily by demonstration,
4. The learner is responsible for obtaining knowledge and skills, and
5. There is little or no explicit pedagogy or curriculum.

There are also generalizations about the setting and motivations:

6. It is embedded in daily activities and in contexts where the significance of what is to be learned is intrinsic in the context,
7. It is motivated by the social contribution of the novices,
8. Instructors are relatives and the personal nature of the relationship between the learner and the instructor is an important motivational factor.<sup>2</sup>

Unfortunately, these generalizations are based on naturalistic observations of varying quality and until recently we have had no detailed observations of education in non-school settings that could be used to test these generalizations. Childs and Greenfield (1980) offer a model of the kind of data needed. Using videotaped data of Zinacanteco girls learning to weave they tested the generalizations

outlined above. They found that observation and participatory learning are an important part of their weaving education, that learning occurs in contexts where the significance of the weaving is obvious, and that the learner and the teacher have a very personal relationship. Thus, their work generally supports previous characterizations about informal learning in traditional societies. Recent work by Lave (see Greenfield and Lave 1981) and Moore (1981) also provide important methodological and substantive insights for our understanding of informal education.

Although these recent studies have greatly contributed to our understanding of informal education through the collection and analysis of very detailed data, they have several limitations that need to be highlighted here. First, all focus on learning activities that take place over a period of time and that involve complex and economically important skills. This focus is a potentially rich source of information about a particular type of learning activity, but does not give us information about the variety of other types of educational activities that we can expect to occur in the daily lives of children. Also, the analyses have not explicitly examined how methods and characteristics of informal education vary as the topic-to-be-learned changes. (Moore's (1981) programmatic statement does suggest, however, that topic as well as other nonpedagogical features of the social context are important sources of variation.)

Another limitation is that most of the work studying children's informal education has been conducted among groups in non-industrialized settings. We need to know the characteristics of informal education children in industrialized societies routinely experience as part of their daily lives.<sup>3</sup> The most complete naturalistic evidence for groups in the U.S. exists for American Indians. Philips (1972:387) outlines an idealized learning sequence based on her observations among Warm Springs Indians: "(1) Observation, which of course includes listening; (2) supervised participation; and (3) private, self-initiated self-testing." This sequence and her descriptions are consistent with the generalizations offered from research in traditional societies (see

also Cazden and John 1971). But Philips' work also supports a point made earlier, namely, that there may be a variety of types of learning activities and events that occur in children's lives. After presenting the idealized learning sequence quoted above she adds:

It is not the case that all acquisition of skills proceed through such phases, however, but rather only some of these skills that Indian adults consciously and deliberately teach their children, and which the children consciously try to learn (p. 387).

A second set of questions derives from the recent literature on the nature of instructional interactions in formal classroom settings. Several researchers (Mehan 1979; Sinclair and Coulthard 1975; Shuy and Griffin 1978) have reported that a three-part sequence of "initiation-reply-evaluation" is characteristic of most instruction occurring during formal classroom lessons. An example from Mehan (1979) follows:

Initiation

Reply

Evaluation

Teacher: What does this word say? Jenny

Jenny: One

Teacher: Okay.

The reason that this work raises questions for the study of informal education has been clearly stated by Merritt (1980:5) "We know that children from all backgrounds have learned rules for talking with parents and peers before they come to school and that new rules must be acquired for classroom communication. Recent evidence has suggested that children have more difficulty in acquiring classroom discourse rules when they are very different from 'home discourse' rules (Philips 1972, Erickson and Mohatt 1982)." Restating Merritt's comment in terms of questions about informal education, we could ask if instructional interactions occurring during informal education have the three-part sequence so characteristic of school lessons, and, more broadly, what the characteristics of informal instructional interactions are.

Data previously collected in the town of Utuado, Puerto Rico, provide an opportunity to use an existing data base to examine some of the questions outlined above for informal education in an industrialized population. Urban Utuado has approximately 12,000 people and is located in the rural coffee region of the island. The primary data base used for the analyses presented here are detailed observations and audio recordings made of the home behavior of twenty-nine middle class and lower class kindergarten-aged children. Ethnographic field notes and interviews with the children's female caretakers are also examined.

The broad purpose of the study is to describe and analyze the children's informal education at home. The specific goals of the study are both methodological and substantive. One aim is to develop methods for identifying informal education episodes in "stream of behavior" data that document children's everyday lives. The substantive goals include the following: describe the characteristics of children's informal education for three skills, describe the contexts of these skills, determine if the generalizations developed about informal education in non-industrialized societies are valid for children in an industrialized society, and determine the relationships between type of skill-to-be-learned and the characteristics of informal education episodes. A final goal is to conduct a preliminary analysis of the instructional interactions that occur during informal education episodes.

The literature on informal education reveals three different foci in defining this notion: topic, method, and setting (see Cohen 1971; Scribner and Cole 1973; Childs and Greenfield 1980 for contrasting definitions). To meet the goals of this study I have used topic and setting to delimit the scope of the study; method is allowed to vary. The teaching and learning of skills (as opposed to cultural values and language) in the home setting is the focus. Within the category of skills three have been chosen for detailed analysis: literacy, chores, and rule-bound games. These were chosen because behaviors related to them occur relatively frequently in the observations, they provide a diverse sample of kinds of skills to be learned, and they differ in their functional significance in the culture. Literacy



is related to school performance, chores are related to adult roles, and rule-bound games are important in the children's world of play.

The next chapter in this report describes the nature of the data base used as well as the procedures developed for identifying and analyzing informal education episodes. In the third chapter results are presented separately for each of the three skills and then comparisons are made across the three topics. The preliminary analysis of instructional interactions is also presented. The fourth chapter summarizes the findings of the study and points to future research.

## Notes - Chapter 1

<sup>1</sup>The cognitive consequences of informal education has been a major concern in the literature (e.g., Scribner and Cole 1973; Greenfield and Lave 1981), but is not a primary focus here.

<sup>2</sup>Childs and Greenfield (1980) also propose several generalizations about linguistic aspects of instructional interactions: (1) there is little verbal formulation on the part of the learner, (2) there is a negative relationship between "why" questions and the degree to which the learner participates in the activity to be learned, and (3) learners rarely ask questions.

<sup>3</sup>Some research has been done in laboratory settings (for example, Hess and Shipman 1965). But this work is not applicable here because of the inappropriateness of generalizing from behavior in laboratory settings to naturalistic settings (Belsky 1979, 1980).

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Chapter 2  
METHODOLOGY

The data used in the analyses reported here were not compiled with specific questions about the children's informal education in mind. They were collected during an earlier study to answer questions about the relationships between culture and cognition as well as to provide a comprehensive data base of naturalistic observations for future, more topic-oriented investigations of the culture and behavior of Puerto Rican children. The first section of this chapter summarizes the methods used to collect the data. A central issue in the current study was the development of methods for identifying units of analysis appropriate for the study of informal education from "stream of behavior" data (see Barker 1963). The second section of this chapter discusses the issues involved in identifying these units and presents the methods developed for isolating them in the detailed observations. These units (termed potential learning activities or PLAs) were used for two types of analysis. The first involved description of the characteristics of the PLAs; the second was a preliminary analysis of instructional interactions occurring within the PLAs. The final section of this chapter presents the methods used to compile the descriptions of the PLAs.

Nature of the Data Base

The data were collected in the town of Utuado, Puerto Rico, between November, 1974, and September, 1975. I did participant observation in the town over the entire ten months. Detailed data on a sample of twenty-nine kindergarten-aged children were collected with the help of Puerto Rican assistants. These data include focused observations and audio recordings of the range of their activities at home and in school, interviews with their female caretakers and teachers, their scores on the Stanford-Binet test, and school records. The focus of the current analyses is the detailed naturalistic observations of the children's primary female caretakers are also used. The methods used in collecting the detailed observations and interviews are summarized here; see Jacob (1977) for a fuller discussion of all the methods used in the earlier study.

## Sample

A random sample (stratified by sex) of 38 children was selected from school class lists of the public schools in the town. I visited the primary female caretakers of these children in order to explain the study, ask for their participation, and check that the children met the age, health, and residence requirements of the study. Seven children were eliminated from the sample because of health problems or because the family was planning to leave before the end of the study or lived outside the urban area. Parents of two children did not want to participate in the study. There are 29 children in the final sample. The sex and social class<sup>1</sup> distribution of the sample is given in Table 2.1.

TABLE 2.1

### Social Class and Sex Distribution of Sample

<u>Sex</u>	<u>Social Class</u>	
	<u>Middle</u>	<u>Lower</u>
Male	10	7
Female	<u>4</u>	<u>8</u>
	14	15

The mean age of the children is six years three months, with a range between five years seven months and six years eight months, and a standard deviation of four months. There are no statistically significant differences in age by sex or social class.

### Detailed Observations

After I had been doing participant observation in the town for about three months I began to pilot the procedure for the detailed observations of the children's activities at home and during free play at school. After developing the procedures and guidelines for training local assistants I visited the children's

teachers and female caretakers to explain to them the procedures to be followed. It was stressed that the children should be allowed to do during the observations what they normally do. During April and May, 1975, detailed observations of the children's activities during free play at school were conducted. Observations in the homes of the children were done during school vacation (June and July, 1975).

The observations were conducted by myself and 4 Puerto Rican assistants between 9 a.m. and 6 p.m. The Puerto Rican observers were local Utuañeos in their late teens and early twenties; 3 were female and 1 male. Only 1 observer was present during each observation.

Observers were instructed not to interact with the child or others present during the observation. They were to try to maintain "the role of a friendly, nonevaluating, nondirective and nonparticipating person who is interested in what people do" (Barker and Wright 1971:211). The observers sat near the child they were to observe and placed a small tape recorder with a built-in microphone near the child. Before beginning the observation, the observers waited a few minutes after their arrival to allow for an adjusting period. During the observations the observers placed no constraints on the children; they were free to go anywhere or do anything they wanted to do. The observers made running notes of what the child did and said, and what others said to the child and did. In particular, they were instructed to note what the child does, how s/he does it, with whom s/he does it, what objects or toys are used, and the interactions between the child and others. They were also instructed to note when possible the actions and speech of those with whom the child interacts and of those near the child. It was stressed that they were to provide descriptions and not evaluations of the children's activities. Observers were also instructed to indicate in their written notes the time at the beginning and end of the observation and also approximately every minute during it.

After doing the assigned observation, each observer expanded the notes and transcribed the tape made during the observation. They then integrated their expanded descriptions with the transcriptions of the

of the audio tapes in the form of continuous narratives. The narratives were then checked, revised and typed. Since the detailed observations are continuous narratives in natural language, it is difficult to do quantitative reliability checks directly on these observations. To maintain comparability across observers I read and checked the observations of all the other observers before they were typed.

Four home observations were done for each child; two were approximately fifteen minutes long and two were approximately thirty minutes long. A total of 2,892 minutes (slightly over forty-eight hours) of observations were done in the homes of the children in the sample. Observations were systematically distributed over daily time slots, over observers, and over the entire two-month period.

#### Interviews with Female Caretakers

The primary female caretakers of the children in the sample were interviewed twice. The first time was before the detailed observations and focused on the home environment, demographic characteristics of the household, and the caretakers' attitudes about certain aspects of child training. After the observations were completed, a second open-ended interview which focused on the experiences of the children and on the child training practices and attitudes of the caretakers was conducted.

#### Analysis of Informal Education in Stream of Behavior Data

Two constellations of issues became apparent immediately as I approached the stream of behavior data in the detailed observations.<sup>2</sup> One involved the definition of the three skills to be examined, and the other involved the conceptualization and identification of informal education sequences related to these skills. The solutions to these problems were the result of a series of formulations, modifications, and reformulations. These cycles of reformulation were necessary because I wanted the final analytic definitions and categories to reflect current formulations in the literature as well as to document the range of relevant behavior available in the corpus. The procedures developed and the results presented reflect this goal.

### Definitions of the Skills

Three skills were the focus: literacy, chores and rule-bound games. We used a very broad definition of literacy in order to identify as many instances of the children's activities related to literacy as possible. Reading, writing, counting and preliteracy are included.<sup>3</sup> Anderson, Teale and Estrada (1980) and Miller (1981) followed a similar approach in their studies of children's naturally-occurring literacy activities. Reading is defined here as the use of printed materials with attention to the symbolic aspects of the materials. Thus, a child looking at a book even though not reading aloud was considered as "reading," but a child carrying the book from one location to another was not. Writing is defined as the production of printed materials. This includes activities such as printing letters or words and ordering blocks with letters printed on them to form words. Counting includes activities in which number or frequency are determined. This might involve saying aloud a series of numbers in ordinal sequence to determine the number of objects present. Preliteracy includes activities such as drawing, doing puzzles, coloring, and games involving attention to form or number.

Chores were defined as household tasks, or activities that involve household objects, personal belongings, or toy household objects (for example, play dishes). Examples include cleaning kitchen cabinets, removing laundry from the clothes line, cleaning shoes, sweeping the floor, dusting furniture, and offering a visitor a drink.

Rule-bound games are defined as those play activities that are institutionalized (i.e., non-idiosyncratic) and have explicit rules. Examples include circle games such as El Juez (The Judge) and Misu, games involving gross motor skills such as yalo (tag) and el monstruo (the monster), board games such as Monopoly and Parcheesi, card games, and dominoes.

It was possible for parts of the same segment of behavior to be coded under more than one skill, and, in fact, in several cases this did occur. The game of dominoes is a good example. First, it would



have been identified for games. If the target child counted aloud the number of dots on a domino during the game that segment would also have been identified for the skill of literacy (i.e., counting).

#### Unit of Analysis: Potential Learning Activities

Several issues had to be dealt with in determining a unit of analysis for informal education occurring in stream of behavior data. The first involves the conceptualization of informal education. Education involves both teaching and learning, and any discussion must deal with both parts of the process. Teaching does not appear hard to identify. Gumperz and Herasimchuk (1975) have defined it as a situation in which two or more people focus on a particular task, and one person assumes and is accorded the role of "expert" relative to one or more other participants. Jordan (1977) used a broad definition to identify teaching behaviors in her corpus of naturalistic data as "any action that seemed likely to provide guidance or active help to the child in completing the task." Following these approaches, most would agree that the following situation involves teaching: a five-year-old and his mother are seated next to one another on the floor in the living room of their home. Plastic numbers are scattered in front of them. The mother picks up the plastic number one, holds it up in front of the child and says "one", prompting the child to repeat what she said. After the child says the number, the mother picks up the plastic two, and repeats the process through the number nine.

The issue of identifying learning, on the other hand, presents certain problems. Stevenson (1972:2) points to one: "Everyone would agree that learning involves a change in behavior as a result of experience. But learning itself can never be observed. We must make inferences about learning from changes in performance." In naturalistic settings this is particularly problematic because the change in behavior may be manifested a long time after the events that triggered it. And even when we observe a change in behavior we cannot be sure which event(s) caused it.

These problems in identifying learning in naturalistic settings led me away from attempting to describe "teaching and learning" to describe "teaching and learning environments." By this we mean those social and physical settings which provide children with opportunities

to learn specific topics or skills. Moore (1981) presents a similar orientation. He states, "we have been taking as problematic the process by which participants in a specific social environment organize their interactions in such a way as to make learning possible."

The home environment provides a variety of opportunities for teaching and learning of skills. Some of these can be considered implicit learning opportunities and others present more explicit opportunities for children's learning. For example, books present in the home and adult literacy activities there offer implicit literacy learning opportunities for children. They provide a background which may then be transformed by the child or others into explicit learning opportunities.<sup>4</sup> From casual observation of these artifacts and their uses children may develop some attitudes about the importance of particular types of literacy artifacts and activities but they must more explicitly observe, participate, or be taught for them to learn literacy skills. These explicit learning opportunities are the focus of analysis here.<sup>5</sup>

Another problem was the development of a unit of analysis for the explicit learning opportunities. After studying the data, I developed the notion of "potential learning activity" (PLA). By this I mean a behavior or sequence of behaviors that can result in learning on a specified topic. (It is important to add the qualification "on a specified topic" because any activity is a potential learning activity with regard to some topic.)

Our goal was to identify and delimit within the observations all occurrences of potential learning activities for the target children for each of the skills. A central issue was what to "count as" a potential learning activity for each skill. Our general rule was to include all instances when a target child did an activity related to the skill, explicitly watched or imitated another doing such an activity, or was the object of other verbal or nonverbal instruction on the skill. (The specific operational rules for each skill are given below under the heading of "bracketing.") Our identification and

delimitation of PLAs occurred in two steps. The purpose of the first step (termed "indexing") was to make preliminary identification of all possible PLAs; to do this we used the widest "net" possible. The purposes of the second step (termed "bracketing") were to carefully examine the behaviors identified during the indexing, more precisely identify the target children's PLAs, and delimit the PLAs within the observation narratives. The procedures developed for these two steps in constructing the unit of analysis are discussed in the next two sections. General rules as well as those specific to each of the skills are presented.

### Indexing

In order to identify all possible PLAs of the target children for each skill, we indexed all behavior (whether by a target child or others) that met our criteria for a PLA. This meant that any time anyone in the observation did an activity related to the skill, explicitly watched or imitated another doing such an activity, or was the object of verbal or nonverbal instruction in the skill or talked about the skill we made note on the coding sheets.<sup>6</sup> For each behavior meeting these criteria we recorded what the behavior was, the persons involved, the pages on which it occurred, and for literacy PLAs the artifacts used.

These coding sheets were then used by the coders to identify sections of observations for closer inspection during bracketing. Since indexing served as a first step in data reduction, coders were instructed that when in doubt they should err in the direction of recording too much.

### Bracketing

The purpose of this second step in data reduction was to delimit PLAs for each of the three skills within the narrative observations. A variety of types of decisions had to be made. First, we had to decide more explicitly what to include as "performing", "observing", "imitating," and "receiving instructions" for each of the three skills. Second, we had to develop criteria for identifying the beginning and end of the PLAs. Another problem was how to handle interruptions.

And, fourth, we had to decide how to handle instances when one PLA was embedded within another. Each will be discussed in turn.

#### Operational definitions of PLAs for literacy, chores and games

The criteria developed for identifying performance PLAs are specific to each of the three skills and are discussed below. The general criteria for observation PLAs are that the narrative explicitly state that a target child watches (mira) another person doing an activity that would have constituted a performance PLA if a target child had done it, and that this observation is not followed by the target child performing the activity observed. The general criterion for imitation PLAs is that the target child's observation (as defined above) is immediately followed by the target doing the activity s/he had observed. The general criterion for "receiving instructions" is that the target is the recipient of verbal or nonverbal instructions without such accompanying activities as observation, imitation, or performance. (None of these were found in the data.) In the following sections I will discuss criteria specific to each of the three skills.

Literacy. Indexing for literacy activities included recording any time a literacy artifact (book, newspaper, etc.) was used or mentioned. A first step in bracketing was to eliminate those instances where the target child was not using the literacy artifact to do a literacy activity. For example, when a child merely carried, held, or dusted a literacy artifact the activity was not bracketed.

I will discuss criteria for each of the subdivisions of literacy we examined: reading, writing, counting, and preliteracy. From a theoretical perspective, reading can be viewed as involving the processing or use of alphabetic or numeric symbols. This processing can occur at many levels from decoding through comprehension of meaning. Naturalistic data presents difficulties in deciding if individuals are actually processing the symbols when they are looking at materials containing symbols. If the person is reading aloud from a text, one might feel safe in assuming they are at least decoding the symbols

(but they might have memorized the text); however, when an individual is silently reading or looking at literacy materials it is even more difficult to decide if (and what kind of) processing is really occurring. For a variety of reasons we chose to use a fairly broad definition of what behaviors would be considered "reading". Essentially, any instance when target children focused their attention on material containing alphabetic or numeric symbols while being at a close enough distance to be able to process the information was considered "reading". Examples of the types of behavior we coded as reading include a child holding a book on his lap and looking at the pages while turning them slowly, reading numbers aloud from a school notebook, and matching cards containing numbers with other cards containing varying numbers of objects.

From a theoretical perspective, writing involves the production of alphanumeric symbols. As with reading, varying stages of productive ability can be identified: basic ability to produce individual letters and numbers through the ability to produce complex text. However, because there is a physical product the occurrence of writing is easier to determine than is reading. We coded as writing any production of alphabetic or numeric symbols. Examples include a child copying his/her name into a school notebook, writing his/her name using blocks containing letters on them, and printing letters in the mud with a stick.

We viewed preliteracy activities as including those which might contribute to the child's development of skills involved in reading or writing. We include activities that involved the child in developing fine motor coordination, attending to number and form, attending to the various sounds in a word. Examples of the types of activities included are children coloring or drawing, tracing letters or numbers, playing card games, playing with games that involve matching words or numbers with pictures of their referents, dominoes, doing puzzles, and verbal games such as veo, veo (I see, I see) which involve attending to the initial sounds and letters of words.

We defined counting as saying numbers aloud to determine or report the number of objects present, or other behavior such as touching

objects in sequence that seems directed toward determining the number of objects. The numbers said aloud might be in sequence or merely state the final answer. We did not include discussions of time (i.e., what time is it?). If such a question was asked of a target child and she/he then consulted a clock or watch to answer, that behavior would have been considered as "reading numeric symbols."

In general, if a target child explicitly watched or imitated someone else doing an activity we had defined as reading, writing, preliteracy or counting it was bracketed as a PLA. Information about the distance between the child and the person observed was taken into account. The child had to be close enough to be able to see (or in some cases of preliteracy and counting hear) the symbols involved. Watching someone else color or draw was not bracketed as a PLA since we thought there was no literacy-related skill to be learned from merely watching these activities; however, a target child watching someone color and then doing it was bracketed as "imitating."

Chores. Before compiling specific criteria for what to consider as chores I consulted interviews of the children's female caretakers during which they had been asked about their children's chores (tareas). The list compiled from their answers was used to help determine which behaviors to consider as chores. We decided to include household tasks, and activities that involved household objects or the child's personal belongings or toys. The kinds of activities bracketed as PLAs include setting the table, cleaning shoes, running errands, hanging up clothes, sweeping, and picking up toys. If a target child explicitly watched or imitated someone else doing an activity defined as a chore we bracketed this as a PLA.

Games. Of the three skills examined, games were the easiest to identify in the narratives. Often the games were labeled by the child (or the observer in supplementary notes). Play activities that were not idiosyncratic and that involved explicit rules were defined as rule-bound games. We included cooperative circle games, games that involve listening to someone else's speech and responding with the appropriate

behavior, games involving marbles or billiard balls, tag games, as well as card and board games.

#### Delimiting the PLAs within the narrative observations

The target children's behaviors outlined in the previous section were used to identify PLAs. To have comparable units of analysis we had to develop operational rules for the beginning and end of each PLA, for interruptions in the target children's behavior during PLAs, and for overlaps between PLAs.

To begin bracketing a particular observation we would use the index sheets as a guide, find activities in the narrative described on the index sheet, and decide if it qualified as a PLA. If it did we would then work both forward and backward from the identifying activity to bracket the beginning and end of the PLA. A variety of contextualization cues (see Dickman 1963; Erickson and Shultz 1981) are used for this: linguistic signals that label an activity or summons the child's participation, change in gross physical movement of the target, change in topic of conversation, change in artifacts the target uses, and change in the behavior of the person observed. If the target's activity involved observing or imitating someone else, the behavior the target observed or imitated was considered the beginning of the PLA.

Because we had stream of behavior data and because we also recorded the behavior and speech of others besides the target children, we had to decide how to deal with "interruptions" in PLA. We distinguished first between those behaviors and speech that were related to the PLA and those that were not. Activities and speech of participants other than the target children that were not related to the PLA were not treated as interruptions. We defined interruptions as a series of behaviors or utterances by the target child that are not related to the PLA being examined; single behaviors or utterances were not treated as interruptions. For example, we did not consider a change in facial expression ("smiles"), involuntary motor activity ("scratches head"), a short comment on an unrelated topic ("I think it's raining"),



or a brief change in physical location ("stands and sits again on the sofa") as interruptions. (Interruptions were marked with reverse brackets on the observation sheets.)

Sometimes the target child's PLA behavior on the same skill were separated by very long stretches of non-PLA behaviors. In other cases, a child used a literacy artifact in different ways during an observation; for example, a boy might read from a book and later count the number of pages in the book. We had to decide what to consider as one PLA. Artifacts were used as the criterion. All activities involving a given artifact in the same type of skill (literacy, chores, games) that occurred within the same observation were considered as one PLA. In the example above, a child reading from a book and then counting the number of pages in it was treated as one PLA. A child sweeping the floor at the beginning of an observation, then running an errand, and then returning to sweep some more would be bracketed as two PLAs--one PLA for the sweeping behaviors (with a long interruption) and one PLA in which the child ran the errand.

Another issue was how to handle PLAs which overlapped and involved different skills. For example, while playing a game of dominoes (game skill) the target child might explicitly count the number of dominoes he has in front of him (literacy skill). To deal with this, we bracketed PLAs for each of the three skills separately and treated these two activities as two PLAs--one game PLA and one literacy PLA embedded within the game PLA.

#### Coding the PLAs

The PLAs identified and bracketed for each of the three skills were coded on the variables discussed below. Some of the variables are straight forward and do not require further discussion. These include information such as the target child's identification number, and the observation number and pages on which the PLA occurred. The skill involved (literacy, chores, games) was coded as well as whether the activity involved the target child observing, imitating, or performing

the behavior. Issues involved in coding these variables have already been discussed. For the literacy PLAs we also coded whether the literacy activity was reading, writing, preliteracy or counting; if more than one of these activities occurred in a PLA all were recorded. For reading and writing activities we also recorded whether the symbols involved were alphabetic, numeric, or both.

#### Person(s) observed or imitated

If the target child observed or imitated someone else doing a target activity we recorded who the person observed was, their age, gender and relation to the target child.

#### Activity of person observed

If the target child observed or imitated someone else doing a target activity we recorded what the activity of the person was. For literacy PLAs we also recorded whether the activity was reading, writing, counting or preliteracy.

#### Social character of target's performing an activity

When the target child actually performs an activity related to one of the skills (note: this includes imitating another's activity but excludes PLAs in which the child only observes). We coded whether the child did the activity "alone" or "with others." (It should be noted here that this variable does not deal with the presence of others during the PLA, but with the involvement of others in the target child's performance of the activity in the PLA. Thus the observer's presence and presence of others who were involved in other activities was not considered in coding this variable. The "with others" category was used both when the child jointly did the activity with others and when the target child and another did the same activity in a parallel fashion. Examples of the first instance would be when a group of children are playing a game together, or when two children are sweeping the floor together. Examples of the second instance would be when two children are coloring in separate books but sitting at the same table, or when a group of children are looking at several different comic books at the same time. The category "alone" was used to indicate that the target child performed the activity essentially by himself or herself. Someone merely telling a target child to do a task or briefly checking on what target was doing were not sufficient to code the activity as "with others.

### Persons participating in the PLA

When another person was involved in doing the activity jointly or parallel with the target child we recorded his/her age, gender, and relationship to the target child.

### Duration of PLA

During data collection time was recorded on the observation records in two ways. Observers recorded the time at the beginning and end of the observations and approximately every minute during the observations. Transcribers recorded counter numbers from transcriber units. During coding we used both of these to arrive at judgments of the duration of PLAs. Two variables were coded.

The first variable is the overall length of the PLA, including any interruptions or embedded PLAs. The second value records the length of the entire PLA minus any interruptions or other embedded PLA, giving the equivalent of a "time on task" measure. Where possible, actual number of minutes is recorded. However, for PLAs less than a minute long it is difficult to be very precise. Consequently, we developed two categories for PLAs less than a minute long. When the PLA is only one or two lines long (for example, the statement "the target child observes what the observer is writing") it is coded as .25 minutes. When the PLA is longer than that but less than a minute it is coded as .50 minutes long.

### Initiation of PLA

Ethnographic data (see Jacob 1977) indicate that Utuaño mothers believe that there are no universal laws of development for children, that children learn at their own pace, and that they learn little by little as they develop an expanding capacity for new information and skills. To see whether these cultural attitudes are manifested in the mothers' behavior I decided to examine who initiates the PLAs. If these attitudes are manifested in behavior I would expect that the caretakers would respond to the children's behavior and expressions of interest rather than initiate potential learning activities for the children. After preliminary examinations of the data we developed two variables: (1) initiation of the PLA, and (2) initiation of the target child's participation in the PLA.

For the variable "initiation of the PLA" several guidelines were developed: When the PLA involved the target child observing or imitating someone else, that person was coded as the initiator of the PLA. In the PLAs not involving observation or imitation, criteria for who was to be coded as initiator varied for each of the three skills. In literacy PLAs that involve a literacy artifact the person who introduced the literacy artifact to the target child's immediate surrounding was considered the initiator.<sup>7</sup> For literacy PLAs not involving a literacy artifact (for example, when a child counts the number of apples in a row or draws on a wall) and for chore and game PLAs, the person who starts the activity involving the target child in a PLA is coded as the initiator.

The criteria for "initiation of target child's participation in the PLA" are as follows. If the target children seemed to decide on their own to participate in a PLA (e.g., to observe someone, to read or count, to do a chore, or play a game) they were coded as initiating their own participation. If someone else summons, prompts, or commands the child to do a target activity the other person is coded as initiating the target child's participation.

For both variables, the age, gender and relationship to the target child of initiators other than target child were recorded.

#### Research Assistants

Three research assistants (Joanne Bisagna, Emma Muñoz Duston, and Ramonita Santiago) were involved at various times in indexing, bracketing, and coding of the PLAs. Drawing on their understandings of Puerto Rican culture as well as their professional training in linguistics they played active roles in the cycles of reformulation and refinement of categories and data reduction procedures. Reliability was maintained through initial training, periodic checking and comparison of data reduction products, and spot checking by myself at regular intervals.

<sup>1</sup>I was concerned with identifying those subgroups Utuañeos themselves recognize as well as subgroups which differ in environmental and cultural factors that could be expected to influence the children's cognitive competence and performance. Urban Utuañeos recognize three major subgroups in the town (los ricos, la clase media, and los pobres). In Jacob (1977) los ricos were referred to as "upper middle class," the rest of the clase media was called "middle class," los pobres were called "lower class." Because of the small number of girls in the upper middle class and middle middle class samples, the two groups are combined here for analysis purposes. Where the term "middle class" is used here it refers to both the upper middle class and middle middle class groups together. These locally-recognized groups also differ in some aspects of the immediate environment and cultural values. Consequently, they provide a basis for intracommunity comparisons. See Jacob (1977: 39,40) for further information on criteria used to determine social class.

<sup>2</sup>This discussion of the issues involved in studying informal education in stream of behavior data is drawn from Jacob (in press).

<sup>3</sup>Watching television was initially included as a literacy activity because I thought it might provide an opportunity for reading. Later it was eliminated from the analyses because it was not used in that way. None of the programs watched during our observations were instructional and print seems to appear too briefly on the screen during normal productions to provide an opportunity for explicit instruction.

<sup>4</sup>Anderson (1980) made a similar point about the relationship between literacy materials and literacy activities: "...the mere presence of literacy materials is not necessarily indicative of the degree of a literacy environment. Materials must always be examined vis-a-vis the activities which are occurring."

<sup>5</sup>I had hoped to be able to describe the children's implicit learning opportunities as well, but the observations did not provide systematic data on topics such as the activities of persons other than the target children.

<sup>6</sup>We also recorded instances when the target children pretended to do the skills (for example, pretended that the back of a chair was a shopping list or pretended to serve dolls food) as well as references made during conversations about each of the skills. Future analyses will use these data to examine the role of pretend in skill development, and attitudes and values related to each skill.

<sup>7</sup>Literacy artifacts include those that contain written alphanumeric symbols (e.g., libreta, gum wrapper, comic books, cassette tape label, observer's tape recorder, pamphlet, newspaper, magazine) as well as those that are routinely used for writing symbols (libreta, paper and pencil).

## Chapter 3

### INFORMAL EDUCATION IN PUERTO RICO

This chapter has 4 sections. The first section presents data on the caretakers' attitudes and values related to informal education. In the second section I discuss the characteristics of the target children's literacy, chore and game PLAs, present information on the context of these skills, and outline the children's caretakers' attitudes toward these skills. In the third section I present a preliminary qualitative analysis of the instructional interactions that occur during the PLAs children did with others. The findings are summarized in the fourth section.

#### Utuaño Attitudes and Values Relating to Informal Education

In Utuado the term criar is used to refer to the overall process of raising children. The rearing (crianza) is seen as the responsibility of the children's parents or whoever are the primary caretakers of the children. One part of raising children is making sure that they learn to behave in socially acceptable ways (poner educación). This includes learning proper manners, rules for social interaction, appropriate sex role behavior, and showing respect for older persons. Children and adults who are respectful and exhibit appropriate behavior are said to be well brought up (bien educado). Skill development is also part of growing up. All females are expected to learn the skills involved in keeping house as part of their rearing. For boys, however, there do not seem to be clear community-wide expectations regarding the skills they need to learn outside of school.

One local concept that applied to both learning appropriate behavior and skills is capacidad (literally, capacity). Capacidad refers to a person's present abilities, social maturity and his/her "readiness" to learn more complex skills or social behavior. Capacidad is increased little by little by accumulating experience. Young



children are said to have no capacidad. Little by little as children gain experience (coge experiencia) they increase their capacidad. It is expected that young children will not do things perfectly because they do not yet have the capacidad to do them perfectly.

Interviews with the primary female caretakers of the children in the sample revealed further insights. They were asked at what ages their child went to the bathroom alone, walked alone, and first spoke. The responses varied widely. When asked if they thought there is a specific age at which children "should" begin to do these activities, almost all answered "no" and said that it depends on the child. They said that some learn early and some learn later and that one cannot force a child to learn if they do not have the capacidad to do it. (See the discussion of the caretakers' attitudes towards the children's chores in the next section for more data on the caretakers' attitudes toward informal education.)

#### Characteristics of Literacy, Chore and Game PLAs

In this section data are presented separately for literacy, ~~chore~~ and game PLAs. First I report information on the context of and attitudes toward each skill, drawing on ethnographic and interview data. Then I present the characteristics of all the PLAs for each skill: ~~number of PLAs, number and characteristics of children who did them,~~ number of PLAs per child, and relative frequency of observation, imitation and performance PLAs. I then discuss the characteristics of observation, imitation and performance PLAs in more detail; because participatory learning has been described as being important in informal education I have further subdivided performance PLAs into those done alone and those done with others. The characteristics discussed for each of the subdivisions include the following: content of the PLAs, number and characteristics of children doing them, number of PLAs per child, the duration of the PLAs, and who initiates the PLAs and targets participation in them. For those performance PLAs done with others I also report the number and characteristics of the others involved and the percentage of PLAs done with someone older than the target children.



## Literacy

Puerto Rico is a developed, industrialized country where literacy is an important part of life. The town of Utuado is the main urban area in the municipio of the same name; it is the local seat of government as well as the center of the municipio's business and religious activities. Literacy artifacts are a component of individuals' lives in the town. There are signs on the streets and in shop windows. Newspapers are sold on street corners, and magazines are offered in many stores. Most goods and products sold have labels or directions on them. That this print has meaning to Utuañeos is reflected in the fact that approximately 92% of the urban population in Puerto Rico over 10 years old is literate (U.S. Census of Population: 1970, General Social and Economic Characteristics, Puerto Rico, Table 42).

In a more direct way literacy is a part of work lives of many Utuañeo adults. Approximately 45% of those who are employed work in white collar jobs that we can assume involve daily literacy activities (U.S. Census of Population: 1970, General Social and Economic Characteristics, Puerto Rico, Table 93). Government jobs are an important source of white collar jobs in Utuado, and forms and regulations are central to their functions. Teaching is an important occupational opportunity for middle-class women in the town. The many shops and stores also provide an important source of white collar jobs. There are supermarkets, small corner grocery stores, a small market, pharmacies, restaurants, laundries, banks, bakeries, meat markets, jewelry stores, clothing stores, shoe stores, gas stations, travel agencies, hardware stores, woodworking shops, furniture stores, barbers beauty salons, funeral parlors, and more. Many of the blue collar workers of both sexes work in the local factories that produce clothing and cigars.

For children school is an important part of their lives. For most Utuañeo children five years old and older, the calendar year is divided into the school year and summer vacation.

The types and number of literacy artifacts present in the children's homes is a relevant aspect of their implicit literacy education

environment. Two questions asked of the female caretakers are relevant. They were asked how many and what kinds of books were in their homes. The responses to the quantitative question ranged between 0 and 300, with a median of 10 and a mean of 42. Sixteen of the caretakers listed the types of books that were in their homes. Fiction (novelas and literature) were mentioned in six households and encyclopedias in five. Dictionaries, religious books, and magazines were mentioned in three households. School books, sports books, and newspapers were mentioned in two households; car repair books, and books related to work were each mentioned in one household. Social class differences exist. In middle class homes the median number of books reported is 62.5 (mean 77.6); in lower class homes the median reported is 4.5 (mean 10.7). Encyclopedias were only mentioned in middle class homes; two thirds of those mentioning fiction were lower class; the other types of books were mentioned about the same by both groups.

Because literacy was not a focus of the data collection, we had not made a systematic effort to record literacy artifacts present in the children's homes. However, for this report we did examine the observations to see what literacy artifacts had been observed by the researchers. As Table 3.1 shows the literacy artifacts most frequently observed in the homes were writing instruments, libretas (school notebooks), radios and record players, books, clocks or watches, materials for games, and newspapers.

#### Potential Learning Activities

The analysis presented here is based on 62 PLAs which involve 24 of the 29 target children. There were 9 middle class males, 4 middle class females, 5 lower class males, and 6 lower class females. The number of literacy PLAs each of these children are involved in ranges between 1 and 5 with a mean of 2.6.

TABLE 3.1

## Literacy Artifacts Observed in the Children's Homes

<u>Artifact</u>	<u>Homes in which artifact was observed</u>	
	N	(%)
pen or pencil	13	(45)
<u>libreta</u> (school notebook)	12	(41)
radio or record player	10	(34)
book	9	(31)
clock or watch	9	(31)
playing cards, dominoes, bingo	8	(28)
newspaper	6	(21)
viewmaster and its cards	4	(14)
comic book	3	(10)
calendar	2	(7)
pamphlet	2	(7)
puzzle	2	(7)
bank book, check	2	(7)

Note. All observations were examined and literacy artifacts present in the homes and mentioned in the observations were listed. Because the focus of the earlier data collection was not literacy, we had not made a systematic effort to record literacy artifacts. Consequently, these data do not provide a complete inventory of all literacy artifacts present in the homes, but they may provide some comparative data. Because of the procedures followed in recording the observations, literacy artifacts actually used by the target and others present in the home are more likely to be recorded than artifacts merely present.

In 2 of the literacy PLAs the target children observed another doing a literacy activity, in 3 they imitated another's literacy activity, and in the remaining 57 PLAs the target children performed some type of literacy activity, either alone or with others.<sup>1</sup> Before examining PLAs in which the target children perform a literacy activity, I will briefly describe those involving observation and imitation. Four target children were involved in these PLAs: 1 was a lower class male and 3 were lower class females. The amounts of time the children spent observing during these PLAs were relatively short, ranging between .25 minute and 1 minute, with a mean of .45 minute. The amounts of time spent in imitation periods that followed the target's observation in 3 of the PLAs ranged widely between .25 minute and 29 minutes. The content of these PLAs ranged widely: 3 involved writing, 1 counting, and 1 preliteracy.

Examples of an observation and an imitation PLA are presented. In (1) Luz (target child) observes her sister Sandra (12 years old) writing as they prepare to pretend play. Before the PLA starts Luz, Sandra and Luz's friend Zulmarie (6 years old) were getting ready to pretend play that they are going shopping. Then Luz and Sandra began to play; Sandra pretended to sell Luz some items and Luz pretended to pay for them. Then Sandra begins to write in a notebook to make pretend money :

- (1) Sandra: [ (Writes in a school notebook.) ]  
 Luz: [ (Looks at what Sandra is writing) Avanza, ---que tengo que comprar 'Hurry up...I have to go shopping.' ]  
 Sandra: [ (Continue to write in the notebook.) ]  
 Luz: [ (Continues to watch what Sandra is writing.) ]  
 (1,179,8)<sup>2</sup>

After this PLA Luz and Sandra change the focus of their pretending. They decide to play doctors, pretending that the pieces of paper on which Sandra wrote are prescriptions instead of money.

In (2) the target child imitates another's apparent counting activity. Luz Maria (target child) and her sister Claribel (8 years old) are in the living room. Luz Maria had been removing plastic fruit

from a bowl and carefully setting them in a row along the back of the sofa; her sister watched as she did this. Then the PLA begins:

(2) Claribel: [Touches each fruit slowly, starting with the farthest piece.) [As if counting them]

Luz Maria: [Watches Claribel.]

Luz Maria: [Pushes herself to the back of the sofa. Then she jumps off the sofa and turns around to face the fruit. She touches each fruit briefly, going slowly and starting with the fruit on the far left.] [as if counting them]

(8,233,3-4)

After the PLA ends their mother walks into the living room and tells Luz Maria to take the fruit bowl off the sofa so it won't fall off and break. Luz Maria then takes the bowl off the sofa and puts it and the fruit along the bottom of the wall.

The persons the target children observe or imitate during literacy PLAs are all older siblings of the target children. In all instances, the person observed initiates the PLA and the target children initiate their own participation in the PLAs. In none of these PLAs does a target child ask the person observed questions about what s/he is doing, nor are any explanations offered by the persons observed.

There are 57 PLAs in which target children perform some type of literacy activity.<sup>3</sup> As indicated earlier several types of activities (reading, writing, counting, and preliteracy) are included under the heading of literacy. Since these activities are very different from one another, we also coded these PLAs for the type(s) of activity the children perform during the PLAs. In 89% of the PLAs in which a target child performs a literacy activity, the child does only one activity, in 9% the child does two activities and in 2% the child does three. Of those involving only one activity, 49% are counting, 31% reading, 18% preliteracy, and 2% writing. Of those involving more than one activity, three involve reading and counting together and there was one occurrence of each of the following combinations: pre-literacy and counting; reading and writing; counting, reading, and

writing. After describing the literacy performance PLAs as a whole, I will discuss the characteristics of the PLAs involving only one activity in more detail.

In 49% of the literacy performance PLAs the target child does the PLA alone and in 51% s/he does it with others. Approximately 75% of the other persons involved in these PLAs are older than the target children; 25% of these are parents or grandparents and 50% are friends or other relatives.<sup>4</sup>

The duration of the PLAs ranges between .25 minute and 28 minutes with a mean of 4 minutes (median = 1 minute). There is a great deal of variability in duration both within and across types of literacy activities (see table 3.2). Preliteracy PLAs tend to be the longest, followed by reading PLAs, and then by counting PLAs.

TABLE 3.2  
Duration of Literacy Performance PLAs

	<u>N</u>	<u>Mean</u>	<u>Median</u>	<u>Range</u>
One-activity PLAs				
Reading	16	4 min.	2 min.	(.25-20 min.)
Writing	1	-	-	-
Counting	25	1 min.	.5 min.	(.25-4 min.)
Preliteracy	9	8 min.	1 min.	(.5-28 min.)
PLA's with more than one activity	6	8.5 min.	8 min.	(.5-18 min.)
Total	57	4 min.	1 min.	(.25-28 min.)

Overall, 75% of the literacy performance PLAs are initiated by the target children and 18% by parents, grandparents, older relatives, or older friends. The target children play an even greater role in initiating their own participation in the PLAs. Overall, they initiate their own participation in 94% of the PLAs.<sup>5</sup>

In the following sections I will discuss the content and characteristics of the one-activity performance PLAs in more detail.

### Reading

There are 16 one-activity performance PLAs that involve the target child reading. There are twelve target children who do these PLAs: six middle class males, two middle class females, two lower class males, and two lower class females. In 50% of the PLAs the child is alone while reading; in the other 50% the child does the activity with someone else.

### Reading alone

The types of literacy artifacts read varies greatly: two involve books, and one involves each of the following artifacts: food stamp book, playing cards, comic book, newspaper, pamphlet, and book. Three of these involve numbers and five alphabetic symbols. In interacting with the playing cards the child plays with them for twenty minutes but does not say the numbers aloud. In all but one of the other cases the target child looks at the printed material without reading aloud. In one case the child reads aloud. These PLAs tend to be relatively short; they range between .25 and 3 minutes long with a mean of 1.14 minutes and a median of .50 minute.

Reading with others. Eight PLAs involved the target doing a reading activity with at least one other person. There is usually only one other person; in two cases there are two people. Approximately 80% of the others involved are older than the target children: three are mothers, two grandfathers, and the rest were siblings between seven and twelve years old. The duration of these PLAs is comparatively long; they range between .50 minute and 6 minutes with a mean of 4.4 minutes and a median of 3.5 minutes. The range of artifacts used is wide: two PLAs involve playing cards, one involves each of the following artifacts: radio, gum wrapper, piece of paper, cover of an audio tape, book, and newspaper. Five PLAs involve alphabetic symbols and three involve numeric symbols.

In two of these PLAs the target child plays a simple card game with an older person. The game involve comparing cards to see who



wins a given card--either from those on the table or from one's partner. War (guerra) is such a game where all the cards are divided between the two players who turn their cards over one at a time--the player with the card of higher value wins the opponent's card. Example (3) presents a segment of a 5-minute PLA during which the target (Roberto) and his older brother Jaime play war while seated at the dining table:

- (3) Roberto: (Takes a card from the top of his pack of cards and puts it on the table.)
- Jaime: Diez 'ten' [referring to Roberto's card] (Takes a card from his pack and puts it on the table.) [It's an ace] Ah, gané 'Ha, I won.' (Picks up both cards from the table and puts them in his pack of cards. Then he takes a card from the top of his pack and lays it face up on the table.) Cuatro 'four.'
- Roberto: Cuatro 'four.' (Then he takes a card from the top of his pack and lays it face up on the table.)
- Jaime: Tú ganastes 'you won.'
- Roberto: (Picks up the two cards from the table and puts them in his pack.)

(22,201,4-5)

In two other cases the target child asks an older person what something says--in one case a gum wrapper and in another the cover of a music tape. These exchanges are very short--in one case the person asked doesn't answer and the topic is changed; in the other the older sister answers but the topic is also soon changed.

### Writing

Only one PLA involves the target child writing. This is a lower class girl who sits alone at the kitchen table and prints for the entire 15 minutes of the observation. Her mother said that she had told the target child to write in her libreta because she had not studied all summer and she would forget what she had learned. Someone had written words (Mota, finí, papá, mamá) at the top of the pages of the girl's notebook, and during the PLA she copies each word several times on the lines below it. No one comes to help her and she doesn't ask for help.

### Counting

There are twenty-five PLAs involving counting as the only literacy activity done during the PLA. These are done by fourteen children:



five middle class males, three middle class females, three lower class males, and three lower class females. The mean number of PLAs per child for those who do counting activities is 1.6, with a range between 1 and 3. In 48% of these PLAs the target child does the counting activity alone; in the other 52% the child does the activity with at least one other person.

Counting alone. In almost all of these PLAs the target child counts aloud the number of objects (in ordinal sequence) in his/her presence. (In one exception the target child counts the objects using cardinal numbers; in the other the child counts from 1 through 3 without looking at any objects nearby.) Many different objects are counted: toy cars, keys on a toy piano, plastic cowboys and horses, buttons, photographs in an album, and flower petals in a drawing. Example (4) is characteristic. Maria (target child) had been playing with a toy piano on the floor in the living room. Maria's sister Lucy started crying from her bedroom and Maria went to the room. Then Maria returns to the living room and sits on the floor:

(4) Maria: Uno, dos, tres, cuatro, cinco, seis, siete, ocho, 'one, two, three, four, five, six, seven, eight,' [counting the keys on the piano] Estas que tienen puntitos, yo no lo sé 'These that have little dots, I don't know.'

Brother: (Walks close to Maria)

Maria: [Continues counting the piano keys.] Uno, dos, tres, cuatro, cinco, seis, siete, ocho, nueve, diez....problemas 'one, two, three, four, five, six, seven, eight, nine, ten....problems.'

(18, 162, 10)

Maria then stands up and shifts her attention to the doll she has nearby.

Counting with others. In thirteen of the PLAs involving counting, the target child is doing it with at least one other person. Eighty-three percent of the others are older than the target child (most of these are older friends of the relatives); the other 17% are friends or relatives who are the same age or younger than the target child.

About half of these PLAs are similar to the PLAs in which the target children count alone in that the activity done seems to involve counting the number of objects as an end in itself. The objects counted include toy giraffes, fruits, chair cushions, records, and pieces of a toy car. Example (5) presents an instance of such a PLA. Martín (target child) is with his father, grandfather, and older brother Omar in the living room of his grandparents' home. Martín and Omar had been sitting on the floor playing with some toy animals while their father and grandfather talked. Martín held up a toy lion to his father and asked, "This is Mexican, right?" (Esto es mejicano, verdad?). His father responded, "Yes, and the giraffe, too" (Sí, y la jirafas tambien). Martín responded, "Uhuh" and his father then begins the PLA:

- (5) Father: ¿Cuántas jirafas hay ahí, Martín? 'How many giraffes are there, Martín?'
- Martín: He ¿qué sé yo? 'Ha, what do I know?'
- Father: Mira, aquí hay una, dos, tres, cuatro, cinco, seis siete 'Look, here is one, two, three, four, five, six, seven.' (while he touches the giraffes one by one)
- Martín: (Picks up a toy giraffe in a nearby truck) Y ésta, ocho 'And this one, eight.'
- Father: ¿Ocho con ésta? 'Eight with this one?'
- Martín: Deja ver 'Let's see.'
- Father: (Shows Martín the giraffes.)
- Martín: Uno, dos, tres 'One, two, three.' (as he picks up giraffes).
- Omar: Lo que haces es tumbando 'What you're doing is knocking them over.'
- Martín: Cuatro, cinco, seis, seis y siete y ocho 'Four, five, six, six and seven and eight.' (as he picks up the giraffes in his hands).
- Father: ...
- Martín: Falta otra 'One's missing.'
- Omar: Mira, allá en el carro 'Look, over there in the car.'
- Martín: (Picks up the giraffe in the truck.) Ocho---Papi, ocho hay. 'Eight---Dad, there's eight.'
- Omar: (Takes a giraffe in his hand) ¿Y ésta otra, 'mano? 'And what about this other one, brother?!

Martín: Ah, mira 'Oh, look,' [referring to this giraffe].

Omar: '¿Tú la contraste? 'Did you count it?'  
(23,209,9)

Omar then picks up a toy hiena and Martín picks up a bull. The topic of conversation shifts to characteristics of these animals.

The next most frequent type of counting activity involving others is counting as part of games. In two PLAs the players make sure they have equal numbers of pieces before beginning the games. In one of these the target child's older sister tells him to count the number of pieces he has; he initially refuses but then counts them. His sister also counts her pieces. In the other PLA the target child and his friend alternately chose toy cowboys and Indians as they prepare to play; several times they stop and count their pieces to see how many each have. Another type of game-related counting PLA involves counting spaces on a playing board to move one's marker after rolling the dice.

#### Preliteracy

There are nine PLAs that involve the target child doing only a preliteracy activity during the PLA. Each is done by a different child (four middle class males, one middle class female, two lower class males, and two lower class females). In 44% of these PLAs the target child is doing the preliteracy activity alone; in the other 56% they do it with someone else.

Preliteracy alone. The PLAs in which target children does preliteracy activities alone range between .25 and 28 minutes long, with a median of 2.5 minutes. The activities the children do alone vary. One drew on a pamphlet, another drew in a book, another colored on a wooden block, and the fourth put together a puzzle. While doing these activities the children are rarely interrupted or diverted.

Preliteracy with others. These PLAs range between .50 and 21 minutes with a median of 21 minutes. There are either one or two other persons doing the preliteracy activity with the target child. These others are primarily the target children's older siblings.

In two PLAs the target child colors with others, in two they play linguistic games and in one the target child puts together a puzzle.

### Chores

In many nonindustrialized cultures children's chores are important to a family's economic life and often a direct preparation for the economic roles they will perform as adults. For example, in rural Mexico weaving is a central economic activity of Zinacanteco women who weave almost all clothing on their own looms. In learning to weave, young girls are acquiring skills needed to function as adults in the society (see Childs and Greenfield 1980).

In industrialized cultures children's chores usually are not central to a family's economic life. Adults often hold jobs outside the home and children are not expected to automatically take the same type of job their parents have. Chores in these settings are not major contributions to the family's economic life, though they often do contribute to the comfort of the family by maintaining the household. Basically, this is the case for young children in urban Utuado.

Although the town is surrounded by rural farm area, few adults living in town work on farms; most work in small shops, in factories producing clothing or cigars, or in local offices of government agencies. Parents do not know what jobs their children will hold. Consequently, many of the children's chores are not direct preparation for major adult economic roles. Some of the girls' chores, however, do prepare them for adult domestic roles and do contribute to maintaining the household. Women have primary responsibility for household maintenance chores such as cooking, cleaning, washing, ironing, etc. Girls' chores in these areas can be seen as preparation for their adult roles. Many families in town have small gardens next to their homes; some also raise small animals such as chickens. Children's chores in the garden and with the animals help the entire family.

Data from interviews with the children's primary female caretakers provides insight into caretakers' expressed attitudes about children's

chores as well as the content of the chores children perform.<sup>6</sup> Caretakers were asked at what age children should have the responsibility of helping at home (deben tener responsabilidades de ayudar en casa). They gave answers of between "three years old" and "twelve years old."<sup>7</sup> Some of the women answering with a low age commented that one needs to begin teaching them early (debe enseñarles temprano) so they learn little by little (poco a poco). Among those answering between six and eight years, some also said that at that age the children can reason (empiecan a razonar, que tenga usa de razon), can understand (tienen entendimiento), or that they should be learning to help by then. Only one of the caretakers giving an answer of nine years or older qualified her answer; she said that children are nine years old before they do things well.

The caretakers were also asked if their child has any chore (tareas) to do at home. There were three types of responses: (1) yes; (2) no, but the child often helps voluntarily; and (3) an unqualified no. According to the caretakers 80% of the middle class boys, 100% of the middle class girls, 60% of the lower class boys, and 60% of the lower class girls have chores or help voluntarily. The types of chores caretakers said their children do are listed in table 3.3. Feeding animals was mentioned most widely across gender-SES subgroups. Picking up toys, cleaning their rooms, and dusting the furniture were mentioned by caretakers of both boys and girls. Mopping the floor and cleaning the yard or patio were mentioned by both SES groups for boys; dusting the furniture and putting away clean clothes were mentioned by both SES groups for girls. Several other types of chores were mentioned only for one of the four gender-SES subgroups.

TABLE 3.3  
Children's Chores

	<u>Middle Class</u>		<u>Lower Class</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
feed the animals	X		X	X
pick up toys	X	X		
clean their rooms	X			X
dust the furniture		X	X	
mop the floors	X		X	
fold and put away clean clothes		X		X
clean the yard/patio	X		X	
wash bathroom sink	X			
wipe the table	X			
take out the garbage			X	
clean their shoes		X		
clean their drawers		X		
hang up their clothes		X		
wash dishes				X
make the beds				X
do simple cooking				X

Source: Interviews with target children's primary female caretakers.

Caretakers were also asked if kindergarten-aged children should be allowed to do hard tasks when it is likely that they will become discouraged if they do it poorly. From the answers to the question, it seems that the women interpreted the question in two ways. Five seemed to interpret it as, "should one give the children difficult tasks to do?". Twenty-five seemed to interpret it as, "should one let them do difficult tasks?".<sup>8</sup>

All those who seemed to interpret the question as whether one should give the child difficult tasks to do said "no, that one should not demand that the child do difficult tasks." Several added that in general one should not demand a lot of the children (no exigirles mucho)

because they learn little by little. It is thought that since the children will eventually learn what they need to know there is no need to force them to do it early.

Of those who seemed to interpret the question as whether they should permit children to do something difficult about half said "no" and about half said "yes, as long as they will not hurt themselves." Those who said "no" added that children at that age do not have the capacidad or intelligence (inteligencia) to do difficult tasks, or that the children will feel bad or be angry if they do not do the task well. Those that answered "yes" said that the children should be allowed to do the task so they do not become discouraged (se desaniman) or lose interest and so they learn and develop little by little (aprenden poco a poco; vayan desarrollando la mente; vayan desenvolviendose). They added, however, that one should not criticize the children's work if it is done poorly and that one should let the children stop the task when they want to stop.

#### Potential Learning Activities

There are thirty-eight chore PLAs. Seventeen target children do these PLAs; five are middle class boys, four are middle class girls, three are lower class boys, and five are lower class girls. The number of chore PLAs each of these children performed ranged between 1 and 7, with a median of 2 and a mean of 2.2..

Three of the PLAs involve observation; the other thirty-five are performance PLAs. I examine those involving observation first. Three children perform the observation PLAs; two are middle class boys and one is a lower class girl. Each has at least one other PLA that is a performance PLA. All were very brief - either .25 or .50 minutes, and the children initiated their own participation in the PLAs. One boy watches the housekeeper in the kitchen; the girl watches her sister sweep in the living room. Example (6) presents the third case, during which the target child (Orlando) and his brother Miguel observe their father fix something under his jeep.



The observer reported that the two boys had been watching their father before she started data collection. The PLA is at the beginning of the sampling period:

- |             |  |
|-------------|--|
| (6) Father: | (Lying on his back under the jeep fixing something)                              |
| Miguel:     | (Lying on his back near his father watching what his father is doing)            |
| Orlando:    | (Lying on his back near his father watching what his father is doing) (11,218,2) |

After the PLA Orlando calls his brother to play and the two walk to the backyard.

In 57% of the PLAs where the target children perform chores the child does the chore alone. Eleven target children do these PLAs: three are middle class boys, three are lower class boys, two are middle class girls, and three are lower class girls. The types of chores the children do alone varies; although most are simple tasks. The most frequent (30% of PLAs) involve carrying a cup or other dish into the kitchen. Throwing something in the trash, washing a cup, carrying something sweeping, and picking up toys also occurred more than once. The following chores occurred once: dusting a piece of furniture, cleaning up dirt spilled, and opening a door. All but two of these PLAs were less than a minute long. The mean length was .66 minute with a range between .25 to 2.0 minutes. In approximately 75% of these PLAs the target child initiates both the PLA and his/her own participation in it; in the other 25% a parent or grandparent initiates both the PLA and the child's participation by telling the child to do the chore.

Example (7) is a typical case of a chore performed alone. Eugenia (target child) had been playing on the porch in a play house she had constructed of chairs, cardboard boxes, and the porch railing. Her aunt brought her a glass of juice to drink. After Eugenia drinks it, she does her chore:

- (7) Eugenia: (Leaves her play house and goes inside the house carrying her empty glass.) (20,148,6)

She then returns to the porch running to her play house.



In fifteen (43%) of the chore performance PLAs the target children do the chore with at least one other person. Nine target children do these PLAs: three middle class boys, three middle class girls, and three lower class girls. In 59% of these PLAs only one other person is involved and in 30% there are two other persons. These other persons are primarily (65%) the target children's parents or grandparents; 25% are other relatives or friends older than the target children, and 10% are younger relatives or friends.

The types of chores done with others is very similar to those done alone. The most frequent type of activity involves the target child carrying an object such as clean clothes, a wastebasket, or a glass from one place to another. Cleaning activities also occur frequently. In one PLA the target girl and the housekeeper clean out kitchen cabinets and wipe off the counter tops together. In another PLA the target child sweeps the living room while her sisters dust and pick up clothes; in others a girl wipes out the oven and a boy cleans off dirt from his shoes. Other types of activities also occur: a boy serves his sister a soft drink, a girl opens a water valve, a girl hangs up a shirt, and a boy throws a dirty napkin into a wastebasket. In example (8) the target child is cleaning. Elizabeth (target child) and her sisters Luz (9 years old) and Elaine (8 years old) were cleaning the house when the observation started. They continue:

- (8) Elizabeth: (Sitting on the sofa in the living room)  
Luz: (Picks up clothes that are in a pile on a chair in the living room.)  
Elaine: (Picks up a pile of clothes on the sofa and takes them to the bedroom.)

[The girls have a short conversation not related to the PLA.]

Elaine: Yo barro 'I'll sweep.'

Elizabeth: No, yo barro--tú no sabes nada 'No, I'll sweep---you don't know anything.' (gets up from the sofa)

[Elizabeth sits down again on the sofa while Elaine sweeps and Luz is in the bedroom]

Elaine: (to Elizabeth) Toma, barre 'Here, sweep,' (holds out the broom to Elizabeth)

Elizabeth: (Takes the broom and sweeps in the living room, including sweeping under the coffee table and the sofa. Sweeps together the dust and dirt into a pile next to the sofa.)

Elaine: (Goes to the bedroom. Returns to living room with a rag and bottle of furniture polish. She opens the bottle, puts some polish on the rag, closes the bottle and puts it on the coffee table, and then begins dusting the coffee table with the rag.)

Elizabeth: (Continues to sweep. As she sweeps she moves the pile of sut and dirt toward the front of the house. Sweeps under the dinner table. She eventually arrives at the door to the kitchen.)

Elizabeth: (to Elaine) No hay paso, Len 'I can't get through, 'laine.' [there is a pile of clothes in the doorway] Mira 'Look' (pointing to the clothes)

Elaine: (Looks toward the kitchen and then continues to polish the coffee table.)

Elizabeth: (Goes into the kitchen, pushing the clothes to the side and then continues sweeping.)

Elaine: (Dusts and polishes the sofa.)

(14,176,2-3)

The PLA continues for about another two minutes while the girls continue to clean.

The chore performance PLAs done with others tend to be longer than the chore PLAs the children do alone. The mean length of the chore PLAs done with others is 2.1 minutes (median of .50 minutes), with a range between .25 and 10 minutes. Unlike the chore PLAs done alone, approximately half (58%) of the chore PLAs done with others are initiated by the target children's parents or grandparents, 17% are initiated by other relatives or friends older than the target children, and only 25% are initiated by the children themselves. A similar pattern holds for the initiation of the target children's participation in the chore PLAs done with others. In 46% of these PLAs a parent or grandparent initiates the target's participation, in 15% another older relative or friend initiates the target's participation, and in 38% the target children themselves initiate their participation.

### Rule-bound Games

The observations analyzed in this report were made during the summer after the children had finished kindergarten. The children have a fair amount of freedom in determining their activities during the day during summer vacation. Previous analysis of the observations indicate that the children engage in a wide range of activities. They spend time eating, grooming, doing chores, doing literacy activities, watching television, and just talking with others. They also spend a great deal of time in what would generally be called "play." This includes activities such as playing with toys, pretending, building structures with blocks, and running around as well as what can be called rule-bound games. (See Appendix B for descriptions of rule-bound games played by the children.)

The caretakers of the target children had not been asked any questions about rule-bound games in particular. However, in response to a question about the children's toys, the caretakers indicated that playing ball games and combat games are primarily for boys (although a few caretakers did say that they thought girls could also play ball games).

### Potential Learning Activities

There are twenty-eight PLAs in which target children play rule-bound games. Eight of the target children do these PLAs: all are boys; four are middle class and four are lower class. The number of times each child plays games ranges between 1 and 8, with a median of 4 and a mean of 3.5.

None of the game PLAs involve observing or imitation. All involve the target children actually playing games, and in all PLAs the target children play with at least one other person. The number of other people playing the game with the target child ranges between 1 and 5, with a mean of 2.4 and median of 3 other persons per PLA. Seventy-five percent of the other persons are older relatives and

friends, 16% are younger relatives and friends, 7% are relatives and friends the same age as the target, and only 1% are parents or grandparents.

The target children play a variety of games. The most frequent are cooperative circle games (el sapo, el juez, misu, and masequí), games that involve listening carefully to someone else's speech and responding with the appropriate behavior (Simón; enano, gigante; puedo o no puedo; uno, dos, tres, pescado; suplicio), and games involving marbles or billiard balls. The children also play tag games (yalo, al monstruo), card games, board games (Monopoly, Parcheesi), dominoes, ball games, and games involving linguistic cues (veo, veo).

Immediately before the PLA presented in (9) the target child (Roberto) had been playing with a toy machine gun. His friend Marcos (8 years old) then calls to Roberto and his other friends Maria (6 years old) and Celia (6 years old) to play tag:

- (9) Marcos: Vamos a jugar yalito 'Let's play tag.'
- María: (Picks up a small rock in her hand) La echo 'I'll hide it.' [She means that she'll hide the stone in one hand and the one who chooses the hand with the stone in it will be "it."]
- Marcos: Este es el tein 'This is home base.' [touches the and then stays there) Roberto, el portón es el tein 'Robert, the gate is home base.'
- Roberto: (Runs after Marcos, Maria and Celia who run up the stairs.) [Roberto is "it".]
- Marcos: Es sin tein 'There's no home base.'
- Marcos,  
Maria &  
Celia : [(Run all different ways.)]
- Roberto: [(Runs after Maria.)]
- Marcos: (to Roberto) Cógeme 'Catch me.' (as he runs close to Roberto.)
- Roberto: [(Turns around and runs after Marcos.)]
- Marcos: [(Runs and then goes down the steps.)]
- Roberto: (Continues running after Marcos and then touches him.) (to Marcos) Te toque, te quedas 'I got you. You're "it".' (22,131,7)

The PLA continues another minute while Marcos was "it." Then Marcos suggests that they play another game and this PLA ends.

The game PLAs are between 1 and 20 minutes long, with a mean of 6.7 minutes and a median of 5.25 minutes. In 42% of the PLAs the target children initiate the PLAs and in another 42% older relatives or friends initiate the PLA; the remaining PLAs are initiated by relatives or friends the same age as the target children. The target children initiate their own participation in all the game PLAs.

#### Comparison of Characteristics Across Skills

One question posed at the beginning of this report is how characteristics of informal education vary by the skill-to-be-learned. In this section I compare the results across literacy, chores, and rule-bound games to answer that question.

Literacy PLAs occur most frequently, followed by chore PLAs and then game PLAs. Across all three skills, observation and imitation PLAs occur relatively infrequently; over 90% of the PLAs involved the target children actually performing an activity related to the skill in question. (See table 3.4 for exact figures.)

The PLAs varied widely in terms of the number of target children involved in them. Over 80% of the target children do at least one literacy PLA, about 60% of the children do chore PLAs, and about 30% of the children do game PLAs. The gender and SES characteristics of the children involved in the PLAs also vary by skill. Middle class children seem more likely to do literacy PLAs than lower class children; girls seem more likely to do chore PLAs than boys; and boys seem more likely to do game PLAs than girls. (See table 3.4.)

Since performance PLAs are by far the most frequent type I will examine their characteristics in more detail. (See table 3.5 for exact figures.) For literacy and chore performance PLAs the target children do the activities alone in about half the PLAs; in the other half they do them with others; all of the game PLAs are with others.

TABLE 3.4  
Comparison Of PLAs Across Skills

Number (%) of PLAs	SKILLS		
	<u>Literacy</u>	<u>Chores</u>	<u>Games</u>
Total	62	38	28
observation	2(3%)	3(8%)	0
imitation	3(5%)	0	0
performance	57(92%)	35	28(100%)
Number (%) of target children involved in these PLAs			
Total <sup>a</sup>	24(83%)	17(59%)	8(28%)
middle class males <sup>b</sup>	9(90%)	5(50%)	4(40%)
middle class females <sup>b</sup>	4(100%)	4(100%)	0
lower class males <sup>b</sup>	5(71%)	3(43%)	4(57%)
lower class females <sup>b</sup>	6(75%)	5(63%)	0
Mean number of PLAs/child	2.6	2.2	3.5

- a. Percentages are based on total number of target children (N=29).
- b. Percentages use the number of target children involved in PLAs as the denominator.

TABLE 3.5

## Comparison of Performance PLAs Across Skills

	SKILLS		
	<u>Literacy</u>	<u>Chores</u>	<u>Games</u>
Number of performance PLAs	57	35	28
Number (%) alone	28(49%)	20(57%)	0
Number (%) with others	29(51%)	15(43%)	28(100%)
Mean length and range			
PLAs done alone	1.8min(.25-28)	.66min(.25-2)	-
PLAs done with others	3.4min(.5-21)	2.1min.(.25-10)	6.7min.(1-20)
Initiation of PLAs (% initiated by target children)			
PLAs done alone	96%	78%	-
PLAs done with others	54%	25%	42%
Initiation of target children's participation in PLAs (% initiated by target children)			
PLAs done alone	96%	72%	--
PLAs done with others	92%	38%	100%
Mean number and range of others in PLAs	1.4(1-3)	1.3(1-3)	2.4(1-5)
Characteristics of others in PLAs.			
parents/grandparents	25%	65%	1%
older relatives/friends	50%	25%	75%
same age relatives/friends	6%	0	7%
younger relatives/friends	19%	10%	16%
Percentage of PLAs with others in which at least one person is older than target children	81%	100%	93%

The PLAs vary widely in terms of their length. Across all three skills the PLAs done with others tend to be longer than those done alone. Of those done with others, game PLAs are the longest, followed by literacy and then chores. Literacy performance PLAs done alone are also longer than chore PLAs done alone. There is also variability across the skills in terms of initiation of the PLAs as well as initiation of the target children's participation in the PLAs. Among performance PLAs done with others, the target children are least likely to initiate the chore PLAs themselves and most likely to initiate the literacy PLAs. And they are more likely to initiate the PLAs they do alone than those they do with others. Over all performance PLAs, target children initiate their own participation in the PLAs over 75% of the time (except for chore PLAs done with others).

Game performance PLAs done with others involve almost twice as many people other than the target children compared to literacy or chore PLAs. Across performance PLAs for all three skills over 75% of the others involved in the PLAs are persons older than the target children. For literacy and game PLAs, most of these are non-parental relatives or friends; for chore PLAs most are parents or grandparents. In over 80% of the performance PLAs done with others there is at least one person older than the target child involved in the PLA.

To summarize, I found some similarities and some differences across the three skills examined. Skill does not seem to significantly affect type informal education (i.e., observation, imitation, performance). Almost all PLAs involve the target child actually doing an activity related to the skill. It also does not seem to affect the proportion of people older than the target child who are involved in the PLAs: over three-fourths of the non-target persons involved in the PLAs are older than the target children. Some characteristics do seem to be related to the type of skill-to-be-learned. Literacy and game performance PLAs differ from chore PLAs in several ways: patterns of initiation of the PLAs and of initiation of the target children's participation in the PLAs, and in the percentage the older persons involved in the PLAs who are the children's parents or grandparents. Literacy and chore performance PLAs are alike in that approximately half of them are done



alone and half are done with others; all the game PLAs are done with others. Skill definitely is related to the frequency and length of PLAs as well as to the number and characteristics of the target children involved.

### Instructional Interactions: A Preliminary Analysis

What is offered here is a preliminary analysis of the instructional interactions involving the target children during literacy, chore and game PLAs. Not all instructional interactions are accounted for, nor are quantitative analyses done. This section of the report should be viewed as a first step toward a more complete analysis of the linguistic forms and discourse features of instructional interactions. The goals in this analysis are to determine if one particular form (the three-part sequence of initiation-reply-evaluation that is so characteristic of formal education)<sup>9</sup> occurs during informal education episodes in Puerto Rican children's homes and, more broadly, to examine several characteristics of the instructional interactions.

Before proceeding a few methodological points are in order. To make the data examined parallel to that analyzed in classrooms I limit the scope of the investigation to those interactions in which a target child "receives" the instruction and a person older than the target children "provides" the instruction. The data base examined is further limited to interactions occurring during performance PLAs. The definition of "instructional interaction" used here is very broad. Any verbal or nonverbal behavior by a person older than the target child which can be intended as a strategy for eliciting information from the target or providing new information to the target is considered an instructional utterance. Instructional interactions include instructional utterances as well as other verbal or nonverbal behavior that serves to initiate, continue or terminate an instructional sequence on a given topic. These instructional interactions are viewed as equivalent for comparative purposes to the three-part initiation-reply-evaluation sequence identified in school classroom instruction (Mehan, 1979; Sinclair and Coulthard 1975, Griffin and Shuy 1978).

### Dimensions of Contrast

The initiation-reply-evaluation sequence provides a starting point for this discussion. This sequence has several characteristics. First, the instructor initiates the instructional interaction. Second, the instructional interactions can be divided into several types based on the content of the interaction: product, process, and metaprocess. Mehan's (1979) discussion of these characteristics contributed to the formulation of the two dimensions used here to categorize instructional interactions occurring in the target children's homes.

The dimension of initiation relates to the impetus for the instructional interaction, specifying whether the instructor or the learner initiates the sequence. Two categories are used. When the instructor initiates the interaction it is termed "unsolicited;" when the learner initiates the interaction it is termed "responsive." Responsive interactions are further subdivided into those that respond to the learner's explicit query behavior and those that respond to the learner's non-query behavior. The second dimension, content, relates to the nature of the information at issue, specifying whether it deals with factual information about who, what, when, where, or why, or whether it deals with how to do something. These two categories are termed factual and process, respectively. Thus, there are six possible types of instructional interactions based on these dimensions of contrast: unsolicited-factual, unsolicited-process, responsive to query behavior-factual, responsive to query behavior-process, responsive to non-query behavior-factual, responsive to non-query behavior-process.

Using these dimensions, the initiation-reply-evaluation sequence characteristic of school instructional interactions would be considered unsolicited on the initiation dimension. Mehan (1979) reports that the content of these interactions varies, with factual information being the primary content of the lessons themselves and process information being the primary content during the beginnings and endings of lessons. Consequently, school interactions might be either factual or process on the content dimension.

In the rest of this section I use excerpts from PLAs to illustrate and discuss the five types of instructional interactions (from among

the possible six) which occur in the corpus.<sup>10</sup>

### Unsolicited-factual

This category represents those instructional interactions that are initiated by the instructor and deal with factual information. Example (5) which was presented earlier in the discussion of counting PLAs fits this category. The relevant part of the PLA is repeated here for the reader's ease. Immediately before this excerpt occurs, Martin (target) and his older brother were playing in the living room; their father and grandfather were sitting on a nearby sofa talking:

- (5) a. Father:      ¿Cuántas jirafas hay ahí, Martín? 'How many giraffes are there, Martín?'
- b. Martín:      He, ¿qué sé yo? 'Ha, what do I know?'
- c. Father:      Mira, aquí hay una, dos, tres, cuatro, cinco, seis, siete 'Look, here are one, two, three, four, five, six, seven.' (touching the giraffes one by one as he counts)
- d. Martín:      (picks up a giraffe in a truck) Y esta ocho 'And this one is eight.'
- e. Father:      ¿Ocho con ésta? 'Eight with this one?'
- f. Martín      Deja ver---Uno, dos, tres, cuatro, cinco, seis, seis y siete y ocho 'Let's see---one, two, three, four, five, six, six and seven and eight.' (picks up the giraffes as he counts them)
- g. Father:      .... (23,209,9)

This interaction seems to take the form of the extended initiation-reply-evaluation sequence which Mehan (1979) says occurs when the reply called for does not immediately follow an initiation. In (5a) the father (instructor) initiates the interaction, Martin (target child) does not respond (5b). The father first prompts Martin (5c) and then repeats the elicitation (5e). After Martin arrives at the correct answer (5f), we can assume that the father finishes the sequence with an evaluation (5g). Unfortunately, his actual response is unintelligible on the tape.

Responsive to query behavior--factual

These instructional interactions are those in which the instructor responds to the learner's explicit query for factual information. The query may be either verbal or nonverbal. Example (10) illustrates this type of instructional interaction with a verbal query from the learner. In (10) Javier (target child) had just finished cleaning his shoes and his mother had told him that he needed to use the shoe polish to remove the marks from the shoes. He went into the bedroom shoes in hand, and comes out with a bottle of shoe polish:

- (10) a. Javier: (Shows the bottle of shoe polish to his mother) ¿Este, mami?---ah, mami, ¿este?---¿este? 'This one, mom?---huh, mom, this one? ---this one?'
- b. Mother: No, es igual. Hay otro en el closet. 'No, it's the same. There's another one in the closet.' (21,167,5)

In this interaction the child's query (10a) is immediately followed by the mother's response with the requested information (10b).

Example (11) presents an instructional interaction with a non-verbal query from the learner. Miquel (target child) is putting together a puzzle in the living room while his father is watching him:

- (11) a. Miguel: (Turns over one of the puzzle pieces. Looks at the pieces. Picks up a piece. Tries to fit it into the puzzle, testing it in spaces surrounded by the same color. Looks at his father.)
- b. Father: (Moves his head to indicate "yes")
- c. Miguel: (Puts the piece in its place.) (2,144,7)

In this interaction Miguel "asks" his father if the piece belongs in a particular place by looking at him after he puts the piece in an area (11a). In nodding his head Miguel's father responds with the requested information (11b).

Responsive to query--process

The interactions in this category are those in which the instructor responds to the learner's explicit query for how to do a task. In example (12) the instructor responds to a verbal query about how to make a funny face. Ariel (target child) had been playing a circle game with his sister Claribel (9 years old) and his female cousin Zory (11 years old). Claribel suggested that they play a new game she had seen on television. In preparation for the game Claribel tells him to pick a funny face:

- (12) a. Claribel: Haz una mueca, haz una mueca. 'Make a funny face, make a funny face.'  
b. Ariel: ¿Cómo? 'What?'  
c. Claribel: Cualquier mueca. 'Any funny face.'  
d. Ariel: ¿Cómo que una mueca? 'What do you mean-- funny face?'  
e. Claribel: Así. 'Like this.' (sticking out her tongue.)

(29,197,19)

In 12(d) Ariel (target child) asks how to make a funny face. His sister responds (12e), providing instruction through demonstration.

Response to non-query behavior--factual

One feature of many of the instructional interactions found in the corpus is that the instructors often are responding not to direct queries from the target children but to other behavior or speech. In (13) the instructor (grandfather) responds to what he perceived as the target child's error in counting. Martin (target child) had been moving chair cushions around, putting them one on top of another immediately before the PLA begins:

- (13) a. Martín: Uno, dos, tres, cuatro 'One, two, three' (touching the cushions as he counts them from bottom to top)  
b. Grandfather: [ Uno, dos, tres, cuatro, cinco 'One, two, three, four, five.' ]  
c. Martín: [ (Touches the cushions while his grandfather counts them.) Cinco 'Five.' ]  
d. Grandfather: Ah 'Oh.'

(23,246,3)

While sitting in the same room as Martin, the grandfather responds to Martin's error in counting (13a) by recounting the cushions aloud (13b). Martin participates in this by touching the cushions as his grandfather counts them.<sup>11</sup>

#### Response to non-query behavior--process

This interactions in this category are those in which the instructor responds not to a learner's explicit query but to some other aspect of their speech or behavior related to the process of how to do some activity. Several different types of responses by instructors were found in the data. Some responses deal with the manner of doing the activity, i.e., the instruction is a caution to do the activity "well" or "carefully." A second group of responses deals more explicitly with how to do an activity, and the instructor states that a problem exists by saying something like "one doesn't do that" (eso no se hace). In the third type of response, the instructor deals with how to do an activity by indicating a solution to the problem. For example, the instructor might say "do it like this" followed by a demonstration. Examples of each of these types of responses from the corpus will be given.

In (14) we have an instance when the instructor responds to the child's behavior with instructions about the manner in which to do an activity. Nirvia (target child) had found a shirt lying on the floor. She brought the shirt and a school notebook into the living room and told her grandmother where she had found the shirt. Then her grandmother responds:

- (14) a. Grandmother: Vete y ponla, pónsela en un ganchito bien puesta. 'Go and put it, hang it up nicely on a hanger.'
- b. Nirvia: (Sets the notebook on a box, stands up and take the shirt. She goes to the bedroom and looks for something behind a wall.) Ay, aquí no hay gancho. 'Oh, there isn't a hanger here.'
- c. Grandmother: Bien pueste ita, mire y abre las persianas pa' que entre fresco. 'Nice and neat, oh yeah, and open the windows to let in some fresh air.'  
(19,242,4)

Twice in this excerpt (14a,c) the grandmother responds to Nirvia's behavior and speech with comments to hang up the shirt in a way that was "nice and neat," i.e., with comments about the manner of doing the activity.

Example (15) is an instance when the instructor responds to the behavior of a target child by saying that a problem exists. Roberto (target child) had been playing a card game with his older brother Jaime. After finishing that game they decided to play Monopoly. Their sisters Maria (9 years old) and Eugenia (8 years old) as well as a neighbor (9 years old) join them at the table. As they begin to prepare to play the excerpt starts:

- (15) a. Maria: Yo so la banquera 'I'm the banker.'  
b. Roberto: (Picks up a card from the table.)  
c. Jaime: No, Robert con eso no 'No, Robert, not with that one.' (22,210,14)

In this instance Jaime is the instructor. He responds to the target child's behavior in (15b) with a statement that a problem exists (15c).

The next type of response about how to do an activity is when the instructor responds to the child's behavior indicating the solution to the problem. In (16) Ariel (target child) had been playing a series of games with his sister Claribel (9 years old), his female cousin Zory (11 years old) and his brother Carlos (7 years old). Immediately before this excerpt begins someone suggested that they play Simon Says:

- (16) a. Claribel: Ajá, Simón, yo lo digo---Simón dice, que saquen la lengua. 'Okay, Simon Says, I'll be "it"---Simon says stick out your tongue.'  
b. Zory and Carlos: (stick out their tongues)  
c. Ariel: (looks at Claribel; doesn't stick out his tongue.)  
d. Claribel: Ajá, Ariel, no la sacastes. 'Okay, Ariel, you didn't stick out your tongue.'  
e. Ariel: (sticks out his tongue)  
f. Claribel: La tienen que dejar fuera hasta que yo diga otro mandato. Simón dice, (laughs) Simón



- f. Claribel  
 (Continued): dice que se la metan. [referring to their tongues] 'You have to leave them out until I give you another command. Simon says (laughs) Simon says that you should put them back.'  
 (29,197,23)

Claribel assumes the role of instructor here. In (16d) Claribel's response to Ariel's behavior implicitly states that he should have stuck out his tongue; in (16f) she again responds to his behavior by telling him that he should now keep it out until she gives another command. In both utterances she instructs him by providing the solution to a problem.

#### Extended instructional sequences

In the previous discussion I have presented short excerpts from PLAs to illustrate different types of instructional interactions found in the corpus. Many of the instructional interactions are brief sequences such as those presented above. However, there are some extended sequences of instruction in which several types of instructional interactions occur.

For example, in (17) the child's mother indicates that a problem exists and also indicates the solution to it. Nirvia's mother had called her to wipe up some food spilled in the oven. (The mother had recently returned from the hospital and couldn't bend over.) Nirvia comes into the kitchen and her mother hands her a cloth:

- (17) a. Nirvia: (Wipes the inside of the oven.)  
 b. Mother: (Watches Nirvia) No, no, lo de adentro  
 'No, no, the part farther back.'  
 c. Nirvia: (Wipes off the shelf inside the oven.)  
 d. Mother: (Continues to watch Everlidys.)  
 e. Nirvia: Miau, miau, miau [nonsense syllables]  
 (she continues to wipe out the oven.)  
 f. Mother: Bien adentro, bien adentro en el horno.  
 'Way back, way in the back of the oven.'  
 g. Nirvia: (Continues wiping out the oven, then gives  
 the cloth to her mother and gets up.)  
 (19,143,5)



In (17b) Nirvia's mother responds to her behavior first by stating there was a problem ("no, no") and then indicates the solution ("the part farther back"). In (17f) her mother responds to her behavior with another statement of the solution to the problem ("way back, way in the back of the oven").

Example (18) presents another case. Javier (target child) had been sitting in the living room looking at a book when his mother initiated a chore PLA by saying, "Javier, remember that you have to clean your shoes," (Javi, recuerda que tienes que limpiar los zapatos). Javier got his shoes and followed his mother outside. She then fills a bucket with water and gives him a rag.

- (18) a. Javier: Se daña 'It'll be ruined.' [He thinks the shoes will be ruined if he puts them in water.]
- b. Mother: Mojas el pañito (pointing to the bucket), lo exprimes y lo pasas. 'You're going to wet the rag, wring it out, and then wipe off the shoes.'
- c. Javier: (Sits on the railing next to the bucket, and puts his shoes on the ground. Puts the rag into the bucket. Removes the rag from the bucket and then wrings it out.)
- d. Mother: (Watches Javier.) Quitate el reloj que lo dañas. 'Take off your watch cause you'll ruin it.'
- e. Javier: Eh, ya lo mojé. 'Oops, I already got it wet.' (Carefully cleans the side of one shoe)
- f. Mother: (Goes inside the house with Javier's sister to help her put on her shoes and socks.)
- g. Javier: (Turn the shoe over and cleans off the other side. Puts the rag into the bucket, removes it, and then wrings it out. He then cleans the other shoe and throws the rag back into the bucket. He picks up his shoes and stands up.) Ya! 'Done!'
- h. Javier: [Goes inside the house and stands in the doorway to the room where his mother is.]
- i. Mother: Javito, tienes que dejarlo(s) secar 'Javi, you have to let them dry.'
- j. Javier: Secarlo! ¿Qué tú dices? 'Dry them! What do you mean?' (Looks at the shoes) No le salieron las manchas 'The spots didn't come off.'

- k. Mother: No, porque le tienes que, le tienes que pasar la otra, otra 'No, because you have, you have to put on the other, other.'  
(referring to the shoe polish)
- l. Javier: ¡Ooh!. (He goes to the bedroom with his shoes in hand. Then he comes out of the bedroom with a bottle of shoe polish.)
- m. Javier: (Shows the bottle of shoe polish to her mother) ¿Este, mami?--- ah, mami, ¿éste?--- ¿éste? 'This one, mom?---huh, mom, this one?---this one?'
- n. Mother: No, es igual. Hay otro en el closet 'No, it's the same. There's another one in the closet.'  
(21,167,4-5)

As mentioned above, there are several types of instructional interactions in this sequence. In (18b) and (18d) Javier's mother responds to his behavior by indicating the solutions to problems. After he wipes off the shoes his mother again responds (18i) with a solution. In (18j) Javier asks a question, but rather than waiting for an answer he states another problem to which his mother responds with a solution (18k). The final interaction is one I had quoted earlier. In it Javier asks a factual question (18m) and his mother responds (18n) with an answer.

### Summary

In this preliminary analysis I outlined six types of instructional interactions that contrast along two dimensions: initiation and content. Examples of five of these types were identified in the corpus; unsolicited instructions about process were not found. Many times instructional interactions are short and involve only one type of instructional utterance. In some instances, however, the sequences are longer and several types of instructional utterances occur within the same sequence.

The initiation-reply-evaluation sequence so characteristic of school settings does occur. Two characteristics of the initiation-reply-evaluation sequence in schools are that they are initiated by the instructor and deal primarily with factual information; the instances of this sequence occurring in the PLAs also have the same characteristics. However, most of instructional interactions in the

PLAs have very different characteristics. Most are not initiated by the instructor, but are responses to the target children's behavior or speech. And most dealt with process, i.e., how to do something, rather than with facts. These data suggest that the differences in the forms used in instructional interactions in informal and formal education settings may be related to underlying differences in the approach to and content of education in these settings.

<sup>1</sup>Instances of target children explicitly observing the researcher writing are not included in this analysis because they are not part of the children's natural environment.

<sup>2</sup>Examples present entire PLAs unless indicated otherwise. Nonverbal behavior is presented within parentheses; explanatory comments by observer are presented within brackets. Translations of the Spanish were done by me and are in italics immediately following the Spanish. I attempted to do a colloquial translation that preserves in English the style of the speech rather than a strictly literal translation. Pauses are represented by a dash (---), unintelligible words by dots (...). Large brackets enclosing speech or behavior of more than one individual indicate overlapping behavior or speech. Numbers in parentheses at the end of each example are the identification numbers for the child, narrative observation, and page.

<sup>3</sup>PLAs in which target children imitate another's literacy activity are not included here.

<sup>4</sup>Similar patterns exist within one-activity performance PLAs involving reading, counting, or preliteracy.

<sup>5</sup>Similar patterns exist within one-activity performance PLAs involving reading, counting, or preliteracy.

<sup>6</sup>These findings are drawn from analyses reported in Jacob (1977).

7. ~~Ninety percent of the caretakers mentioned a specific age. Analysis~~ of the comments accompanying the answers indicates that the women may have interpreted the question in different ways. Some seem to have interpreted the question as "when do you think you should begin to teach children to do things around the house?" and others as "when should children have responsibility for doing something in the house?"

<sup>8</sup>This latter interpretation is that which I had intended to convey. Three middle class and two lower class caretakers interpreted the question this way.

<sup>9</sup>This sequence occurs in classrooms in Puerto Rico as well as the mainland U.S. An example taken from audio recordings made in an elementary classroom follows:

	<u>Initiation</u>	<u>Reply</u>	<u>Evaluation</u>
Teacher:	Recuerden - que venimos-cuantos- ¿cuántos días venimos a la escuela, Maribel? 'Remember-that we come-how many- how many days do we come to school, Maribel?	Maribel: Venimos a la escuela cinco días 'We come to school five days.'	Teacher: Cinco días, 'Five days.'

<sup>10</sup>The examples presented the discussion of instructional interactions are excerpts from PLAs, not entire PLAs as are examples presented earlier.

<sup>11</sup>An alternative interpretation might view this instructional interaction as an extended initiation-reply-evaluation sequence with the initiation implicit. Viewed this way, (13a) is an incorrect reply that results in the grandfather prompting the child (13b). Once the child provides the correct answer (13c), the grandfather provides the concluding evaluation (13d).

## CHAPTER 4

### CONCLUSIONS AND DISCUSSION

Many of the questions posed at the beginning of this work are descriptive in nature (What are the characteristics of the children's informal education? What kinds of instructional interactions occur during informal education? What are caretakers' attitudes toward informal education?). The "conclusions" to these questions is presented immediately below in the form of a summary of the findings. Other questions (Do the generalizations from descriptions of informal education in nonindustrialized societies hold in Puerto Rico? What is the effect of the skill on characteristics of informal education?) are more comparative in nature. These are addressed after the descriptive summary. At the end of this chapter I raise issues for future research.

The caretakers of the target children discussed their notion of capacidad 'capacity' during interviews and mentioned it during ethnographic observations. Capacidad refers to a person's present abilities, social maturity and his/her "readiness" to learn more complex skills or social behavior. The caretakers feel that children gain capacidad little by little through experience, and that children vary in amount they have at a given age. They say that some children learn early and some learn later, and that one cannot force a child to learn if s/he does not have the capacidad to do it. These expressed attitudes led me to expect informal education that is responsive to the individual stages of development of the children rather than proscriptive.

Three skills are examined in detail: literacy, chores and rule-bound games. To identify informal education episodes of these skills within "stream of behavior" data, I developed the notion of "potential learning activity" (PLA). By this I mean a behavior or sequence of behaviors that can result in learning on a specified topic. We identified and delimited within the observations all occurrences of the target children's PLAs for each of the three skills. Our general

rule was to include all instances when a target child performed an activity related to the skill, explicitly watched or imitated another doing such an activity, or was the object of verbal or nonverbal instruction in the skill. PLAs were classified as involving observation, imitation, or performance (i.e., actually doing an activity related to the skill). Performance PLAs were further divided into those the target children did alone and those they did with others.

Of the three skills, literacy PLAs are the most frequent (N=62), chores are the next most frequent (N=38), and games are the least frequent (N=28). I will describe the content and context of the PLAs for each skill separately before comparing quantitative characteristics across the three skills.

Literacy artifacts are a natural part of the community settings in which the kindergarten-aged children move. They are a part of the work lives of the children's parents and a part of the school lives of the children. Literacy artifacts were observed in all of the children's homes and some of the children's caretakers reported having as many as 300 books in their homes. Social class differences seem to exist in terms of the number of books present in the homes, with middle class homes reporting more books than lower class homes. During literacy PLAs observation and imitation occur infrequently; almost all of the literacy PLAs involve the target children actually doing activities related to literacy (i.e., are performance PLAs). Four activities are examined: reading, writing, counting, and preliteracy. In most PLAs the target child do only one of these activities during the PLA. Counting occurs most frequently, followed by reading, preliteracy and then writing. Across all four activities about half of the PLAs in which target children perform activities they do them alone, and in about half they do them with others. Across all four activities three-fourths of the non-target persons involved in the PLAs, are older than the target children; of these two-thirds are relatives or friends. Across all four activities about three-fourths of the PLAs are initiated by the target children themselves and in about 94% of the PLAs the target children initiate their own participation in the PLAs.

Because they are the most frequent type, performance PLAs are described in more detail. In performance PLAs involving reading a wide variety of artifacts are used: playing cards, comic books, newspapers, books, and other objects such as gum wrappers. In reading alone the children usually look at the artifacts without reading aloud. Children read with others while playing games, asking someone what was written on an artifact, and reading aloud from school notebooks. Counting PLAs usually involve the children counting aloud in ordinal sequence the number of objects in front of them. The objects counted include toys, buttons, flower petals, and photographs. Counting PLAs done with others also involve the target children in counting as part of games. Preliteracy PLAs done alone include drawing, coloring, and putting together puzzles. Preliteracy PLAs done with others include doing puzzles, coloring, and playing linguistic games. There is only one writing performance PLA. During it the target child sits alone at the kitchen table and copies words into her school notebook.

The second skill examined is chores. As in other industrialized settings, chores in Utuado are not a direct preparation for the children's major adult economic roles or major contribution to the family's economic life, though they do contribute to the comfort of the family by maintaining the household. In chore PLAs, observation and imitation occur infrequently; almost all are performance PLAs. About half of these are done alone and half with others. The types of chores done alone and chores done with others are similar. The most frequent include carrying something to another location in the house, throwing something in the trash, washing a dish, sweeping the floor, picking up toys, and cleaning.

The third skill examined is rule-bound games. Since the observations that form the corpus under examination were collected during the summer between kindergarten and first grade the children had a fair amount of



freedom to determine their activities and spent a great deal of time in play. Observation and imitation never occur during these PLAs; all involve the children actually playing a game with others. Many games are played, including cooperative circle games, games that involve listening carefully to someone else's speech and responding with the appropriate behavior, games involving marbles or billiard balls, tag games, as well as card and board games.

Another goal of the study is to provide a preliminary analysis of instructional interactions occurring during the PLAs. I was interested in determining if one particular form (the three-part sequence of initiation-reply-evaluation that is so characteristic of formal education) occurs during informal education episodes in Puerto Rican children's homes and, more broadly, I wanted to examine several characteristics of the instructional interactions. The initiation-reply-evaluation sequence does occur in the PLAs, but very infrequently; the forms that do occur vary widely. Two characteristics of the initiation-reply-evaluation sequence in schools are that they are initiated by the instructor and deal primarily with factual information; the instances of this sequence occurring in the PLAs also have the same characteristics. However, most instructional interactions in the PLAs have very different characteristics. Most are not initiated by the instructor, but are responses to the target children's behavior or speech. And most dealt with process, i.e., how to do something, rather than with facts. These data suggest that the differences in the forms used in instructional interactions in informal and formal education settings may be related to underlying differences in the approach to and content of education in these settings.

The degree to which instructional interactions are responses to the children's behavior, and the degree to which the target children initiated the PLAs and their own participation in them is consistent with attitudes the caretakers of the children expressed during interviews and participant observations in connection with their notion of capacidad.

Other characteristics of the PLAs were examined in a comparative perspective, providing information about the relationship between skill-to-be-learned and the characteristics of informal education episodes. I found some similarities and some differences across the three skills. Skill does not seem to significantly affect type of informal education: almost all informal education episodes are performance PLAs, observation and imitation PLAs are rare. Skill does not seem to affect the proportion of people older than the target child who are involved in the PLAs; over three-fourths of the others in the PLAs were older than the target children. Some other characteristics related to the people participating in the PLAs are affected by skill. Literacy and game PLAs have similar patterns in that the target children themselves initiate about half of the performance PLAs done with others and they initiate their own participation in these PLAs over 90% of the time; in chore PLAs the target children initiate one fourth of the performance PLAs done with others and they initiate their participation in only about one third of these PLAs. Literacy and game performance PLAs are also alike in that most of the non-target persons in the PLAs are friends and relatives other than the target children's parents and grandparents; in chore PLAs the targets' parents and grandparents account for most of the non-target persons involved. Literacy and chore PLAs are different from game PLAs in that approximately half of the performance PLAs are done alone and half were with others; in game PLAs all are done with others. Skill is definitely related to the frequency and length of the PLAs. Literacy PLAs occur more than twice as often as game PLAs. Game PLAs done with others are the longest (mean = 6.7 minutes) and chore PLAs are the shortest (mean = 2.1 minutes); literacy PLAs have a mean of 3.4 minutes. Skill is also related to the number and characteristics of the target children involved in the PLAs. Middle class children are more likely to do literacy PLAs, girls are more likely to do chore PLAs, and boys are more likely to do game PLAs.

The second comparative question asked in the study is whether the generalizations developed for informal education in non-industrialized societies are valid for informal education in industrialized societies.

I found that the characteristics of informal education for kindergarten-aged children in Puerto Rico are both similar and dissimilar to informal education as described for nonindustrialized societies. In both settings, participatory learning is important, the learner is responsible for initiating opportunities to obtain knowledge or skills, and instructors are relatives or close friends. Differences seem to exist in the area of method. In the Puerto Rican data examined here observation, imitation, and demonstration are not the primary methods employed whereas these are important methods in non-industrialized settings. Also the role of the social contribution of the learner does not seem to be as important in Puerto Rico as it is in non-industrialized societies.

Within the limits of the time and money available for this study many restrictions had to be put on the questions that asked and analyses performed. Some questions can be answered in future analyses using the corpus examined here. For example, I presented only a preliminary analysis of instructional interactions, but plan to do a more complete analysis of these data in the future. A major unanswered question deals with the relationships between gender and socio-economic status of the children and characteristics of their PLAs and instructional interactions. We have seen that gender and SES are related to the frequency with which children participate in the different types of skill PLAs, but further work needs to be done on the relationships with other characteristics of PLAs and instructional interactions. The role of individual variability vs. group effects also remains unanswered, as does the question of the relationship between the children's informal education environments at home and those they help create at school. I hope to address these issues in future analyses.

Our indexing and bracketing procedures identified "pretend" literacy activities of the target children. These are activities in which the children are doing a literacy-like activity but without real artifacts. These were not included as PLAs because they do not

present an opportunity for learning literacy skills. In future analyses I plan to examine their role in the children's learning about the social functions of literacy.

This small study also raises many issues for future work beyond this particular data base. There are several limitations to this data base that call for further data collection. First, the use of audio tape and handwritten observations make the analysis of nonverbal aspects of instruction difficult. Second, the nature of sampling done precludes asking developmental questions. Future work needs to examine informal education over a longer period of time.

Although many questions remain to be answered, the results presented in this report contribute to our understanding of the varieties of informal education.

## APPENDIX A

### A SAMPLED DETAILED OBSERVATION AND INSTRUCTIONS TO THE OBSERVER/TRANSCRIBER FOR PREPARING THE FINAL DRAFT OF THE OBSERVATIONS

The first page of each detailed observation is a floor plan of the areas the child was in during the observation. For the home observations, the observers drew their models of the floor plans themselves. On the floor plan they indicated the movements of the target child and themselves, using consecutively numbered single-headed arrows.

The second page of the observations contains two sections: Interview and Commentary. The Interview section contains the observer's report of any conversations s/he had had with the child's caretakers before or after the observation. In the Commentary section, the observer included any subjective comments about the overall observation or the target child. Usually, there is a comment about whether the target child was acting "naturally."

The next section on the final observations is the General Description. In this section, the observer described the overall setting of the observation: who was present, what they were doing when the observer arrived, where the target child was and what s/he was doing, and what toys or objects were in the room nearby. The observer also identified the persons present during the observation--i.e., their ages and relationship to the target child. The ages of siblings were obtained from the interviews with the target child's primary female caretaker; the ages of others were estimated by the observer.

After these introductory sections, the observation itself follows. Before a section from an observation is presented, the conventions followed in writing the final version of the observations are listed:

1. On the far left-hand side of the page write the time when the observation began and ended. Also write the time approximately every minute during the observation.

2. Begin statements about the actions and speech of the target child in a column on the left; begin statements about the actions and speech of others in a column on the right.
3. Write the descriptions of actions in the present tense.
4. Write positive statements rather than negative ones. For example, instead of writing "He did not get up from the table," write "He continues sitting at the table."
5. Write one action per statement.
6. Instead of referring to children by name, assign children in the observation labels consisting of the letter B (for boys) or G (for girls) and a number. The target child is given the number 1. (Therefore, the target child is either B1 or G1, depending on the child's sex.) Assign the other children numbers consecutively as they are mentioned in the observation. Refer to adults by their relationship to the child.
7. Put personal commentaries and explications of activities--for example, a discussion of the rules of a game--between parentheses.
8. Draw a horizontal line across the page when the child moves to another location (in home observations, this usually is when the child moves to another room or area of the patio).
9. When two or more actions or utterances occurred simultaneously, put an asterisk(s) at the beginning of the statements describing these activities.
10. Place drawings of toys or objects used during the observation at the end of the observation and label these figures consecutively.

The following conventions were followed for transcriptions of speech:

11. Put transcriptions of what people say in quotation marks.
12. Use an "X" to indicate that someone said something but you do not know what was said.
13. Indicate to whom comments were made.
14. Use a dash to indicate a pause between words or phrases.
15. Use three dots to indicate words or phrases that cannot be understood from the tape recording.

The following excerpt is from one of the home observations that I did. (All transcriptions of conversations were written in Spanish; I wrote the descriptions in English, and Puerto Rican observers wrote their descriptions in Spanish.)

Two Minute Selection From Sample Observation

**Interview:** There was no interview because neither B1's mother nor father were at home.

**Commentary:** B1 seemed completely relaxed and to be playing normally.

**General Description:** When I arrived, B1's grandfather greeted me, then went inside the house. G1, G3, G4, G5, and G6 were standing in the marquesina talking. G1 had a cloth doll in her arms. G2 was near the other girls, sitting on a tricycle. B1 and B2 were in the laundry room. B2 had a small poodle on a leash. While I was waiting to begin the observation, B1 and B2 walked out of the marquesina together. B2 tied the poodle's leash to the front door of the marquesina. B1 and B2 then returned to the laundry. G1, G2, G3, G4, G5, and G6 went into the living room. G1 and G2 are sisters of B1; G1 is B1's twin (6 years old) and G2 is 3 years old. G3, G4, G5, G6, and B2 are neighbors. B2 is about 6 years old; G3 is about 6 years old; G4 is about 10 years old; G5 is about 11 years old; G6 is about 15 years old.

I didn't see any toys in the marquesina. In the laundry there is a "Fort Cheyenne." This is a box that opens up into a three-dimensional fort on one half and some Indian tepees and grasslands on the other half (see fig. 1). Inside the fort are small (two inches high) cowboys and Indians.

Target Child

Other

2:41 \*B1 is seated on the floor in the laundry room

\*B2 is seated on the floor of the laundry room.

(Between B1 and B2 is the Fort Cheyenne Box unopened, see floor plan)

\*\*Opens Fort Cheyenne box, putting lid (Indian areas) toward the back door of the laundry room; there are about 40 small (two-inch-high) cowboys and Indians of different colors piled inside the fort side of the box; some are riders on horses but most are standing.

\*\*Says as he opens the box "Ya, quitarle este, quitarle este"

B2 to B1 "'spérate"

B1 and B2 look at the cowboys and Indians inside the fort.

"Pido este" as he removes a horse and its rider (I don't know if it's a cowboy or an Indian) from the fort. (The riders are attached to the horses.)

Sets the horse and rider on the floor by his side.

B2 to B1 "...pelea¿verdad?"

B1 "Pido este" as he removes a horse and its rider from the fort



Target Child

Others

"Pido este" as he removes  
another horse with its rider  
from the fort.

Sets the horse and its  
rider by his side on the  
floor.

\* "Pido este" as he removes another  
horse and its rider from the fort.

Returns the horse and its rider  
to the box

B2 sets the horse and rider  
on the floor by his side.

\* B2 to B1 "Ay, yo no, no, no,  
yo todavía no he pedido--...  
¿Dónde está el caballo blanco?"

B2 takes a horse and its  
rider from the box

B2 sets the horse and rider  
on the floor by his side

(can hear poodle barking in marquesina)

"Pido este" as he removes a  
horse and rider from the box

"Pido dos" as he removes another  
horse and rider from the box

Sets the horses and riders on  
the floor with his others

B2 to B1 "¿Cuánto caballo tú  
tiene allá, cuánto caballo  
tú tiene allá?"

To B2 "Deja ver cuantos yo  
tengo," counts his horses  
(and their riders), then says  
to B2 "cuatro"

Target Child

\*Look at his horses and  
riders

Looks up at B2 and says,  
"Cinco tengo yo"

2:42 "Pido" as he removes a horse  
and its rider from the box  
Sets the horse and rider on  
the floor beside him

Looks at his horses and  
riders  
"Tengo seis"

Watches B2

Others

\*B2 looks at his horses and  
riders

B2 "Cuatro yo tengo, ahora  
pido"

B2 "... Ah pues son muchos..."

B2 "X"

\*\* B2 looks at the fort

\*\* B2 "ahora tienes seis...ahora  
me toca a mí, espérame"

B2 removes a black horse (without  
rider) from the fort

B2 sets the horse on the floor  
beside him

G2 and G3 arrive at the door  
(bead curtain) between the  
marquesina and the laundry  
room (G2 is on bike and G3  
walking)

G2 and G3 watch B1 and B2

B2 looks at the fort (inside  
at the pile of cowboys and  
Indians)

Target Child

To B2 "no, no"

\*Watches B2

"Ah, el mío"

Reaches into center of the fort (to remove a horse and rider)

To B2 "Pues coge todos los caballos salvaje porque, mira tú 'sta, tú 'sta, pa' los indios, yo 'stoy pa' los vaqueros"

To B2 "No, cuando uno se le..."

2:43 To Be "Cuando uno se le escapa a otro, éste usa éste"

Others

B2 "Pido este y" as he removes a horse and rider from the fort

B2 "¿No hay un hombre blanco por ahí?"

\* B2 continues to look at the cowboys and Indians inside the fort

\* B2 to himself "...caballo" (I think he is looking for a horse and rider instead of a cowboy or Indian that is standing)

B2 to B1 "No, yo no he pedido ...a mí me falta como un hombre en caballo negro"

B2 looks in the center of the fort (looking for a horse and rider)

B2 looks at B1

B2 to B1, "Te voy a decir una cosa, éste, cuando se le, cuando éste se lástima, pues uso este"

B2 interrupts B1 saying to him, "...ahora me toca a mí"

## APPENDIX B

### DESCRIPTIONS OF UTUADEÑO CHILDREN'S RULE-BOUND GAMES

In this appendix those Utuaideño children's games that are included in the category "rule-bound games" are described.

Yalo or yalito, is similar to tag. One person is designated "it" (se queda). This person then chases the others trying to touch one of the other players. When someone is tagged then s/he becomes "it" and chases the others. The game can be played with or without a "home base" (tein) where players are safe and cannot be tagged.

In el monstruo the child who is designated as "the monster" chases the other players. As "the monster" tags other players they are eliminated from the game. The game ends when only one child is left. This child then is "the monster" and the game begins again.

In suplicio a large rubber ball is needed. This game starts with all the players in a rough circle around the player who has the ball. Each player receives a number (either someone assigns it or the players count off). The person in the center with the ball tosses the ball up in the air while calling out one of the numbers assigned to the other players. The player whose number was called can then either try to catch the ball or let it fall; the other players run away from the center. If the player catches the ball, s/he then tosses it up in the air and calls someone else's number. (That person must then try to catch the ball.) If the first player lets the ball fall to the ground, s/he calls "stop" (paren) when s/he finally gets the ball. All the other players must then stand where they are. The player with the ball then tries to hit one of the other players with the ball. Players receives "points" (puntos) during the game. For example, if the player throwing the ball is able to hit another player with the ball, then it is a point for the person hit; or it is a point for the thrower if s/he misses while trying to hit another player. Players are eliminated from the game when they accumulate three points. The winner is the last player in the game.

In enano, gigante one player is the leader (líder). The other players stand in a line facing the leader. The leader calls out either "enano" (dwarf) or "gigante" (giant). When the leader says "enano," the others must stoop down; when the leader says "gigante," the other must stand up. When one of the players stands up or stoops down at the wrong time, s/he is out of the game. The game continues until only one player is left; this player is then the leader in the next game.

In uno, dos, tres, pescado (one, two, three, fish) one player is the leader. The leader stands with his/her back to the rest of the players who start out in a line a distance from the leader. The leader calls out "uno, dos, tres, pescado" and the other players move forward from the beginning line toward the leader. As the leader says "pescado" s/he turns around rapidly, and if s/he sees one of the others moving then that player must return to the beginning line (para la cola). The players' goal is to arrive close enough to the leader so that they can touch the leader. When a player touches the leader (saying "pescado" as s/he does it), s/he wins the game and becomes the new leader.

In Simón (Simon says) there is a leader who stands alone facing the other players who are in a line. The leader give various commands (for example, stick out your tongue, take a giant step, pull one ear). Some of the commands are prefaced by the phrase "Simón dice" (Simon says). The other players must follow those commands prefaced by "Simón dice," and ignore those not prefaced by the phrase. Players are eliminated when they respond inappropriately to the leader's command. The last player remaining is the winner and becomes the leader in the next game.

In el sapo (the toad) all the players sit with their legs crossed on the floor in a circle. One holds a leaf or twig which represents a toad (sapo). The game starts with all the players in the circle tapping their knees in unison rhythmically. The player holding the leaf holds it out to the person on his/her left and says to the other player "esto es un sapo" (this is a toad). The other answers "¿un qué?" (a what?). The first person answers "un sapo" (a toad) and hands the leaf to the second person who says "esto es un sapo" (this is a toad) as s/he takes the leaf. While this exchange occurs, the two players involved and the

others in the circle must maintain the rhythmic tapping of their knees. After receiving the leaf, the second person on his/her left says "ésto és un sapo" and the game continues with each person passing the leaf to the person on his/her left. A player is eliminated when s/he misses a phrase or taps his/her knees out of rhythm. The last child to remain in the circle is the winner.

Another game the children played was adapted from a local television show. All the players sit in a circle with the legs crossed in front of them. Each player chooses a "funny face" that is different from that of the other players. The game starts with all the players tapping their thighs in unison rhythmically. Someone begins by making his/her "funny face" and then "calling on" another player by making their "funny face." That player then makes his/her "funny face" and that of another player (other than the one who just "called on" (him/her)). A player loses and is eliminated from the game if they forget a face or do one out of sequence. The last child remaining in the game is the winner.

Chequi Morena (also called Chequi Molina and El Juez by target children) is a popular circle game. All the players except one stand in a circle holding hands; that child stands alone in the middle of the circle. The group sings the following song:

El juez le dijo al cura  
Y el cura le dijo al juez  
Que ¿a dónde está ese ritmo? caramba.  
Del merecumbé, jué

Chequi Morena, Chequi,  
Chequi Morena, jué  
Que ¿a dónde está ese ritmo? caramba,  
Del merecumbé, jué

Un pasito adelante  
Y otro para atrás  
Dando la veulta, dando la veulta  
¿Quién se quedará? jué.

As the children sing the first two verses, the person standing in the middle puts his/her hands on his/her hips and moves his/her hips from side to side in rhythm with the song. During the third verse when they sing "un pasito alante" (one step forward) the child in the center takes a step forward; as they sing "y otro para atras" (and another backward) the child takes a step backwards. Then as they sing "dando la vuelta, dando la vuelta" (turning around, turning around), the child closes his/her eyes and turns around holding one arm out in front and pointing. The child keeps turning until the end of the third verse (¿Quién se quedará?, jué) when s/he stops. The person to whom the child in the center is pointing then goes to the center of the circle, and the one who was in the center joins the circle and the game begins again.

In two games the children form pairs and each pair joins hands facing one another. In Misu the children sing a song that begins as follows: "Misu, misu, van a ver a misu...." After they sing the first "misu," each child claps his/her hands and after the second "misu" they clap again. As they sing the rest of the song, the pairs hold hands and put alternating feet forward. (When one child puts his/her right foot forward the partner puts his/her left foot forward.) At the end of the song, both partners stand still and point one finger at the other. The first child to move or smile loses. In Masequí the children sing the following song:

Masequí, masequí  
Equi, equi, equi  
El gallo, la gallina se fueron a banar  
La gallina se ahogó, el gallo la salvó  
Que sí, que no, que en la casa mando yo.

The pairs hold hands while singing the song. They also jump up and down during the song--one partner quickly kicking his/her leg as high as possible forward and the other kicking his/her corresponding leg backward, alternating legs.

In veo, veo one person starts by choosing the name of an object s/he wants the others to guess. S/he then says to the other players "veo, veo" (I see, I see). The others ask, "¿Qué ves?" (What do you see?). The first person then says "una cosa" (something) and the others ask "¿Con qué letra?" (What letter does it begin with?). The first person then tells the others the first letter of the name of the object s/he is thinking of, saying "con la letra    ". (with the letter    ). The others try to guess what the object is; they keep guessing until they guess it correctly or until they give up. If someone guesses it correctly then s/he picks the name of an object in the next round of the game. If no one guesses it correctly and everyone gives up, then the same person continues for the next round.



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