LANGUAGE CHILDREN USE WITH THEIR MOTHERS AND AN UNFAMILIAR LISTENER

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ABSTRACT

The purpose of this study was to determine if children communicate differently with a familiar listener than they do with an unfamiliar listener and to determine if mothers can accurately describe the language their children produce. Fifteen children, between the ages of 3 years 1 month and 3 years 9 months, and their mothers were subjects. The language the children produced and the mothers' predictions were analyzed according to mean length of utterance (MLU). There were no significant differences between the mothers' predictions and the language their children produced. There were also no significant differences between the language the children produced with their mothers and with the unfamiliar listener.

Language evaluations are based upon the assumption that the language a child produces during a diagnostic session, most often in an unfamiliar setting, is representative of the language the child produces. Identifying language differences relies upon the diagnostician, usually an unfamiliar listener, being able to accurately infer the child's communicative ability from the language sample obtained. Information that cannot be ascertained from the child directly during the diagnostic session is often garnered from a parent.

This report will attempt to answer two questions: "Does a child communicate with an unfamiliar listener in the same manner as with a parent?" and "Can mothers accurately predict the language their children are capable of producing?"

Verbal interaction has been recognized as a critical language acquisition process (Nelson, et al., 1973; Slobin, 1975; and Moerk, 1976). The importance of this interactive process led Wyatt (1969) to suggest the need to look at the effect of listener familiarity on children's linguistic performance. Recent attempts to identify variables effecting linguistic performance have found variability in young children's language as a function of the listener. Maratsos (1973) and Menig-Peterson (1975) found that 3 and 4 year old children modified verbal productions as a function of the listener's knowledge of the experience being conveyed. They reported that more information was provided to listeners who did not have a prior knowledge of the event. Shatz and Gelman (1973) found that four year olds reduced the complexity of their language when speaking to younger children. Thus, linguistic performance has been found to vary as a function of listener perspective. Whether or not children communicate differently with unfamiliar listeners than they do with a parent has not been explored.

A parent's experience interacting with a child makes the parent a familiar communicative participant. This experience may result in the parent's knowing the language rules the child uses to generate utterances. Since parents adjust the complexity

of their speech to conform to the linguistic levels of their children (Snow, 1972; Olim, 1970; and Holzman, 1974), parents must have some knowledge of their children's language systems. Parents, therefore, may be able to provide examples of utterances that are representative of their children's language. Although parents are familiar listeners and can adjust their language levels to correspond with their children's language, it is not known if parents can accurately describe or predict the language their children will use.

METHOD

Subjects

Fifteen children (9 males and 6 females) between the ages of 3 years 1 month and 3 years 9 months ($\bar{x}$ = 3 yrs 4 mos) and their mothers, aged 18-46, participated in this study. Three year olds were selected because they already have acquired considerable language, but are still in the process of acquiring language, with parents being a primary source of language exposure. The language ages of the participating children, obtained from the Preschool Language Scale (Zimmerman, et al., 1969) ranged from 2 years 11 months to 5 years 6 months ($\bar{x}$ = 3 yrs 8 mos). None of the children (drawn from families being followed by the Well Baby Clinic of the Western Pennsylvania Hospital) had a history of a communication disorder.

PROCEDURES

The procedures were designed to obtain: 1) the mothers' predictions of how their children would signal specific semantic notions in a series of situations; 2) the children's actual language usage in structured tasks designed to evoke the same semantic notions; and 3) a comparison of the children's language with the mother and with the unfamiliar listener in relation to the structured tasks and in a free play situation.

To obtain the mothers' predictions of how their children would signal the semantic notions, each mother was asked to describe exactly what she thought her child would say in daily situations. The mothers were presented with descriptions of ten situations, two of each requiring the use of the semantic notions: possession, agent-action-object, negation, location and modification. For example, to determine how the mother would predict what her child would say to signal location of an object, the examiner asked the mother: "How would your child tell you that there's a spoon on the floor?" The specific questions used to evoke the semantic notions may be obtained on request.

To compare the mothers' predictions and their children's actual performance, structured tasks were contrived to evoke examples of the five semantic notions. The tasks similar to those of MacDonald and Nickols (1974), consisted of actions performed by the examiner or mother which the child was asked to describe. Four tasks were contrived to evoke examples of each semantic notion. For example, an agent-action-object response was obtained by either the examiner or the mother using a doll to kick a ball and then instructing the child to "Tell me what happened."

These structured language tasks were also used to compare the children's performance with the mother and an unfamiliar listener, the examiner. The tasks were randomly presented by the mother and the unfamiliar listener in separate sessions. No specific task was ever administered to a given child by both the mother and the examiner. Prior to the mother's session with her child she was instructed in the testing procedure by the examiner. All experimental sessions were audio-recorded and, in addition, the examiner observed and recorded the mother and her child from an observation room.

To make a comparison of the child's spontaneous language with a familiar and unfamiliar listener, two 50 utterance language samples were taken during free play with only the mother present in the familiar listener condition and only the examiner in the

unfamiliar listener condition. The children were presented with the free play situation immediately after completing the structured language tasks. Sequence of the familiar vs. unfamiliar listener condition was randomized. In both situations the child had free access to the materials used previously in the structured tasks. The mother was directed to play with her child. She was told that the session would end when the child produced 50 spontaneous utterances and that answers to questions and imitative utterances would not be counted. These sessions too were audio-recorded and again the examiner observed.

Upon completion of the experimental tasks, the examiner adminstered the Preschool Language School to the child. The experimental setting was the same in all situations.

RESULTS

Validity of the Structured Language Tasks

The structured language tasks were analyzed to determine if they evoked the desired semantic notions. This analysis revealed that the tasks were not totally successful. There was considerable variability in the frequency with which particular semantic notions were successfully evoked. The locative tasks evoked locative notions 70% of the time while the negative tasks evoked negative notions only 20% of the time. The percentage of appropriate responses evoked by the tasks in the familiar and unfamiliar listener conditions were comparable. Table 1 provides the percentages of appropriately evoked semantic notions.

TABLE 1:

Percentage of Correct Responses Evoked by the Structured Language Tasks

Intended Relation	Percentage of Correct Responses Produced with Familiar Listener	Percentage of Correct Productions Produced with Unfamiliar Listener
location	70%	80%
agent-action-object	43%	53%
possession	33%	40%
modification	30%	36%
negation	20%	10%

There are several explanations for the ineffectiveness of the structured language tasks. The children were provided with situational information that did not necessitate specifying the intended relationship. For example, the objects that were displayed in attempting to evoke the locative relationship remained in the room and many children simply pointed to the object instead of specifying its location. Also, the tasks did not attempt to control motivational factors. Most children refused to respond on at least one task and often commented on more desirable objects. An additional factor felt to influence performance was submissiveness to authority. In the negative tasks, several children agreed with the specified misinformation even though they produced negative utterances in their own speech and knew the appropriate names for mislabelled objects. The children may have been under social pressure to acquiesce to their mothers or the unfamiliar adult.

Mothers' Predictions

The language the children actually produced in the structured language tasks and the mothers' predictions were analyzed according to a measure of structural complexity, the mean length of utterance (MLU) (Brown, 1973). Table 2 is a comparison between the MLU's produced by the children and the MLU's of the mothers' predictions. Inspection of the t test results reveals that there were no significant differences between the mothers' predictions and the children's performances on MLU. On the whole, the parents predicted their children would produce child-like utterances instead of complex sentence forms. Few of the parents appeared to over-estimate or under estimate their child's language performance. Confidence intervals were computed to measure variability. A confidence interval provides a probability statement (p = .95) of the range within which the true mean difference score lies. Confidence levels were computed for the difference between the mothers' predictions and the children's actual performance (Table 2) and for the differences in the children's performance with the mother and unfamiliar listener (Table 3). An inspection of the ranges indicates that there was considerably more variability between the mothers' predictions and children's performance (Table 2) than there was between the children's performance with the familiar or unfamiliar listener (Table 3).

TABLE 2

A COMPARISON OF MEAN DIFFERENCES BETWEEN MOTHERS' PREDICTIONS AND CHILDREN'S PERFORMANCE ON THE STRUCTURED LANGUAGE TASKS

	Mothers' Predicted MLU*	MLU Produced By The Children	t Value	Confidence Interval	$\overline{Sx}$
Familiar Listener	4.26	3.94	.38	-2.16,	1.45
Unfamiliar Listener	4.26	3.76	.27	-2.95,	1.94

* Mothers were not required to predict performance with the Unfamiliar Listener.
t 2.145 = .05p

TABLE 3

A COMPARISON OF CHILDREN'S MLUs PRODUCED WITH A FAMILIAR AND UNFAMILIAR LISTENER

	Familiar Listener	Unfamiliar Listener	t Value	Confidence Interval	Sx
Structured Language Tasks	3.94	3.76	-.38	-1.72, 1.30	.74
Free Play Setting	4.75	4.49	.35	-1.21, 1.00	.54

t = 2.145 = .05p

Comparison of Performance with Familiar and Unfamiliar Listener

There were no significant differences between the MLU the children signalled with the mothers or unfamiliar listener in either the structured or the spontaneous conditions (See Table 3). While the t test results did not reveal a significant difference between the MLU produced with the mother or with the unfamiliar listener, 12 of the 15 children produced longer utterances with the unfamiliar listener than they did with the mother in the free play setting. Variability in children's performance under the familiar and unfamiliar conditions was small.

RELIABILITY

Several measures of reliability were attempted encompassing both the reliability of the transcriptions and the reliability of the scoring procedures. Reliability of the transcriptions was ascertained by comparing the unfamiliar listener's written transcriptions of the tapes with the written transcriptions of a graduate assistant unaware of the experiment. The index of agreement for the transcriptions was .93.

Scoring procedures were scrutinized in two ways. Randomly selected protocols were rescored by the original examiner. Agreements between the protocols was .99 for MLU. A second rater selected every third protocol and tabulated the MLU. The resultant agreement index between raters was .94.

DISCUSSION

The results suggest that 1) mothers, as a group, are able to predict the length of the utterances their children produce and 2) the language children produce with an unfamiliar listener is representative of the language children produce with their mothers. If a mother is capable of modifying the language she uses to correspond to the language level of her child, it is consistent that she be able to assess the child's language functioning. Parents, however, may not be consciously aware of their children's language level. Brown and Hanlon (1970) found that parents were more aware of the content of their children's language than of its linguistic complexity. Despite the accuracy of the mothers' predictions and the children's productions in this study, mothers reported that predicting what their children would say was a difficult task. Initially, many mothers said that they had no idea of what their children would say in the various situations and needed encouragement to comply with the prediction task.

The fact that there were no significant differences between the language the children produced with the mother and with the unfamiliar listener is also consistent in light of the notion that the language children produce is governed by their current rule system. Familiarity with the listener would not significantly influence the complexity of language. Thus, the language a child generates spontaneously during a diagnostic session may adequately reflect linguistic complexity.

Familiarity with the listener might influence amount of talking more than linguistic complexity. Although we did not measure amount of talking, it was noticed that the children appeared to produce more language in the spontaneous situation with the unfamiliar listener than they did in the spontaneous situation with their mothers. In addition, twelve of the fifteen children produced longer utterances with the unfamiliar listener than they did with the mother. This might have resulted from difficulty parents had letting their children direct an activity. The mothers' usual mode of interaction was one of questioning and asking their children for displays of rote memory such as counting or naming colors. It was difficult for the mothers simply to let their children play. The unfamiliar setting, therefore, may have influenced the parent-child interaction.

The variability in the predicted MLU's and actual MLU's suggests a degree of individual variability within mother-child dyads. The variability found in the accuracy of mothers' predictions suggests that while on the whole mothers may be reliable sources of information, we must be careful not to draw any conclusions about the reliability of each individual mother's descriptions of her child's language.

The ineffectiveness of the structured language tasks in evoking the desired semantic notions makes the clinical application of similar techniques suspect. This issue has been explored more fully in a recent study by Helfrich (1977).

The results of this study provide a preliminary look at the language normal children produce with familiar and unfamiliar listeners and mothers' ability to predict what their children will say. It would appear appropriate to test whether or not the trends uncovered in this paper apply to children with communication problems. It might also be fruitful to compare children's performances in familiar as well as unfamiliar settings and finally to determine if familiarity with the test site influences parent-child interactions.

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