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ABSTRACT

A study varied a formal testing situation to encourage verbalization in black, inner-city nursery school children. The children were asked to identify items from the Peabody Picture Vocabulary Test in either a test situation (looking at the stimulus jointly with an adult) or a "need to know" situation (looking at the stimulus alone). It was predicted that the children would give longer, more linguistically adequate responses in the sole perception condition than in the joint perception condition. The results supported this prediction. Sole-perception children produced more words and utterances than did joint-perception children, as well as more well-formed short answers and full sentence responses. They also directed more nontask-related verbalizations to the adult. Joint perception children produced more highly elliptical responses, gave more responses in which the tense did not correspond with that of the question, and used pronouns without prior reference more frequently than did the sole-perception children. The sole-perception children also produced more accurate responses. The findings suggest that changes in situational features can result in more valid measurements of a child's language ability and knowledge. (Author/FL)

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Technical Report No. 180

EFFECT OF SITUATION ON THE VERBALIZATION
OF BLACK INNER-CITY CHILDREN

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Abstract

Inner-city black children have often been labeled nonverbal. This study varied a formal testing situation to encourage verbalization in these children. Subjects were asked to identify items from the Peabody Picture Vocabulary Test in either a test situation (looking at the stimulus jointly with the experimenter) or a "need to know" situation (looking at the stimulus alone). It was predicted that subjects would give longer, more linguistically adequate responses in the sole perception condition than in the joint perception condition. Results supported this hypothesis. Sole-perception subjects produced more words and utterances than did joint-perception subjects, as well as more well-formed short answers and full-sentence responses. They also directed more non-task-related verbalizations to the experimenter. Joint perception subjects produced more highly elliptical responses (predicate phrase, verb, or adjective only), gave more responses in which the tense did not correspond with that of the question, and used pronouns without prior reference more frequently. A result which was not expected was that sole-perception subjects produced more accurate responses. This study suggests that changes in situational features can result in more valid measurements of the child's language ability and knowledge.

Effect of Situation on the Verbalization of
Black Inner-City Children

In the sixties, a number of educational researchers characterized the speech of black inner-city children as substandard and inadequate (Bereiter & Engelmann, 1966; Deutsch, 1965; Hess & Shipman, 1965). The low achievement of pre-adolescent and adolescent inner-city children was attributed to the cumulative effect of this hypothesized early language deficit, and programs of remediation such as Head Start were developed and implemented. When improved school achievement was not forthcoming, or the gains made were not sustained through even the primary years, remediation of the individual child's language was supplemented by family intervention programs which focused on the mother's language and interactional patterns. (See Baratz & Baratz, 1970, for a discussion of these positions.)

The claim that black inner-city children spoke an inadequate language was vigorously attacked by linguists (e.g., Bailey, 1969; Fasold, 1969; Labov, 1972; Wolfram, 1969). They showed that many of the examples advanced by proponents of the "substandard language" claim were in fact well-documented rule-governed features of either the dialect of black inner-city residents, Black English Vernacular, or were identical to the early stages of the language of children acquiring Standard English (Steffensen, 1974).

A second counterattack centered on differences between the interactional patterns of middle-class white speakers and those of lower-class

black speakers. Hymes (1967) made the point that when children acquire language they also acquire habits governing the use of language, that is, they develop both linguistic and communicative competence. A child without such habits of use could be characterized as a "cultural monstrosity." Cazden (1970) emphasized the importance of the child's categorization of the social world, and his/her beliefs about appropriate ways of speaking in those perceived situations. For Cazden, social class and ethnic differences in the perception of the speech event are a source of differences in the performance of inner-city children: "We observe that a particular child in a particular situation either makes or fails to make a particular utterance. Traditionally, we have related that utterance only to characteristics of this child, such as his social class, while ignoring characteristics of the situation" (1970, p. 42). What is crucial is language use, not language form. Labov (1972) provided a vivid demonstration of how the situation may inhibit the verbal performance of an inner-city 8-year-old and he concluded "that the social situation is the most powerful determinant of verbal behavior and that an adult must enter into the right social relation with a child if he wants to find out what a child can do" (p. 212).

Bernstein (1971) called for greater attention to variables in the school setting which elicit differential performance by lower-class and middle-class children and criticized the assumption underlying intervention programs that the child's parents or home are inadequate. Baratz and Baratz (1970) claimed that it was the failure on the part of the school

to recognize and capitalize upon the different linguistic and cognitive styles of black lower-class children that made them appear uneducable.

The experimental situation itself may be culturally biased against members of a particular group because of differences in the perceptions of the task and the setting (Cazden, 1972; Sroufe, 1970). Houston (1970) has suggested that rural black children perceive a formal situation as one appropriate for their more formal language style, which may convey the appearance of disfluency to the middle-class observer.

The use of "test questions" can be an additional source of interference. Test questions differ from bona fide requests for information in that the interrogator knows the answer and is asking the hearer to display his/her knowledge. Such a speech function is not universal. In the low-income black community that she studied, Ward (1971) found that questions which adults addressed to children were information requests and not a form of "facetious drill." Labov has also provided evidence that black inner-city children are not aware that the adult's question is a demand for a display of knowledge nor do they realize that "the obvious answer is the right one" (Note 1, p. 14). In an experimental study of responding behavior, Hurst and Jones (1967) attempted to elicit verbalization from black Head Start children using techniques successful with white middle-class children, i.e., asking questions about realia and pictures. They found that little spontaneous speech was produced when such methods were used with their subjects. Pasamanick and Knobloch

(1955) categorized language items on the Gesell Developmental Examination into (a) reported language behavior, (b) comprehension of language, and (c) verbal responsiveness. They then analyzed the responses made to these items by black preschool children and found that scores on the verbal responsiveness items were significantly lower than those on the comprehension of language. While Pasamanick and Knobloch suggested that racial difference between the child and examiner was the cause, another interpretation would relate the child's behavior to aspects of the situation, including the use of test questions.

Whether a child is looking at a stimulus that he/she is describing with an adult or alone may affect performance. Working with a population of monolingual native speakers of Polish (mean age 3 years 3 months), Bokus and Shugar (1979) studied descriptions of pictures in two situations: one in which the subject looked at the picture with the experimenter and one in which he/she looked at it alone. The investigators found that in the sole-perception condition, children began by describing the picture, then shifted to their "internal store" and recounted past experiences related to the picture or hypothesized about future outcomes. In the joint-perception condition, children attempted to present new information but were continually pulled back to the perceptually obvious picture to which the experimenter was attending. Only limited verbalization was produced in this condition. Bokus and Shugar concluded that joint perception had a dampening effect on the children's performance. Given the authority

relationship between the adult and the child, and the fact that the adult was in possession of the same visual information as the child, the joint-perception condition led to early closure. The sole-perception condition, on the other hand, did not pit the child's perception against that of the adult, and the verbalizations produced reflected this.

Finally, there is evidence that lower SES black children are sensitive to their listener's communicative needs and modify their verbalizations accordingly. Using trials in which the experimenter was either blindfolded or could see the topic being discussed, Heissner and Apthorp (1976) found that their subjects switched from pointing to verbalization according to the experimenter's condition.

In the present study, it was hypothesized that the sensitivity of inner-city black preschoolers to listener needs might interact with their inexperience with test questions to depress their verbalization and produce the appearance of a low level of verbal fluency. The study was directed to the following questions: Can the testing situation be changed to encourage the verbalization of black inner-city children and thereby provide a more accurate assessment of their verbal ability, present knowledge, and educational potential? Will subjects give longer, more grammatically complete responses when the experimenter seems to need information than when it is clear the experimenter has the same knowledge that the child does? Will prompts stimulate more verbalization when the experimenter needs the information than when he/she already possesses it?

Method

Subjects

Subjects were 31 black inner-city children (13 boys and 18 girls) who were enrolled in nursery school in two parochial schools in Chicago. They ranged in age from 3 years 1 month to 5 years 9 months. For purposes of analysis, they were divided into three groups: (a) youngest group, mean age 3 years 5 months; (b) middle group, mean age 4 years 5 months; (c) oldest group, mean age 5 years 5 months. Subjects were randomly assigned to the experimental or control condition.

Materials

Twenty pictures were selected from the Peabody Picture Vocabulary Test (PPVT). A list of the pictures chosen, with their PPVT plate numbers, is given in Table 1. An attempt was made to eliminate items that would be

Insert Table 1 about here.

unfamiliar to inner-city children, e.g., a man skiing, a chauffeur holding open the door of a limousine. One judged to be difficult (a castle) was included. Pictures were mounted on 8½ x 11 inch colored cardboard and placed in an office tray.

Procedure

Each child was tested individually. The experimenter, who was an adult white female, conducted each child from his/her classroom to a separate room in which the study was conducted. She showed the materials to the

subjects, told them that she thought some of the pictures were missing, and asked them to help complete a list of the pictures. In the sole-perception condition (experimental), the child sat on the floor next to a bookcase where an office tray holding the experimental materials was firmly attached to the bottom shelf. The experimenter sat at a table across the room where she obviously could not see the pictures and noted the subject's responses. In the joint-perception condition (control), the child and experimenter sat together at the table. In this condition, the stimulus materials were in clear view of both. The experimenter took each card out of the tray and showed it to the child. As in the sole-perception condition, she briefly wrote down the child's response.

The experimenter began by asking what the first picture was, then prompted each subsequent response with, "What's on the next picture?" If a child did not respond, he/she was asked only one more time for information about the picture. A limited number of probes were used if the child gave a response that was considered incomplete. In the case of the subject's giving superordinate categories for a noun, he/she was asked, "What kind of X?" In the case of supplying a noun for a picture in which the action was important, the child was asked, "What is X doing?" If only a verb was supplied, the child was prompted with, "Who's X-ing?"

All verbalizations were tape recorded on a Sony TC-520CS Stereo Cassette-Corder.

Scoring

The tapes were transcribed and the protocols analyzed for amount of verbalization by subjects, accuracy of their responses, and number of experimenter prompts. The amount of verbalization included total number of words and total number of utterances that each subject produced. Contractions ("she's," "they're") were each counted as two words. When words were repeated, they were counted only once. However, if the utterance was expanded, all words were counted ("Bike--a little girl's bike." Five words).

Subjects' responses were rated for accuracy according to the following categories: (a) fully correct; (b) partially correct, leading to a prompt, e.g., "a girl" for the correct response "a girl sweeping"; (c) partially incorrect, leading to a prompt; (d) wrong. The partially incorrect category consisted almost entirely of responses such as "Something" to the experimenter's request, "What's on the next picture?" Experimenter prompts which requested additional information were counted, but those which directed the subject to the next stimulus were not.

Results

Results showed that subjects in the sole-perception, need-to-know, condition (E) verbalized more and that their responses were more accurate and more syntactically complex than those of subjects in the joint perception, test condition (C). Of interest was whether age correlated with performance in either the sole or joint perception condition, and it was

therefore included as a main factor in all the analyses of variance. It proved nonsignificant in all cases and was not considered further.

Verbalization. Three measures of verbalization were utilized and results show that each supported the original hypothesis. First, the mean number of words per subject in the sole perception condition ($\bar{X}_E = 100.31$) was significantly greater than in the joint-perception condition ($\bar{X}_C = 79.93$), $F(1,25) = 4.41$, $p < .05$. Second, the mean number of words per item was calculated. In the experimental condition not all children responded to all the items. This was attributed to the difficulty subjects had manipulating the cards in the tray, but it could also have been caused by their avoiding items they could not label or describe. In an effort to rule out such an interpretation, all eleven items that were omitted one or more times in the experimental condition were compared with responses to those items in the control condition. It was found that the items omitted were not those that the children in the control condition had the most difficulty with, refused to respond to most often, or gave incorrect answers for. Thus there did not seem to be a bias in the experimental condition against certain items. When the omission of items was taken into consideration ($\bar{X}_E = 5.44$, $\bar{X}_C = 4.01$), the difference between the sole- and joint-perception groups in number of words per item attempted is highly significant, $F(1,25) = 10.06$, $p < .01$. A third measure of verbalization, the number of utterances per item attempted, also showed a significant difference between the two groups ($\bar{X}_E = 1.82$, $\bar{X}_C = 1.53$), $F(1,25) = 7.25$, $p < .05$.

Item accuracy. Although it was not predicted, subjects in the experimental condition also got more items correct. Initially, a wide range of categories was established for the analysis of response accuracy. However, for this analysis, only those items which were correct either on the first response or after one prompt were counted. The response accuracy per item for each group was not significantly different ($\bar{X}_E = .68$, $\bar{X}_C = .62$), $F(1,25) = .8$, $p < .4$. When the number of items attempted was considered, the response accuracy per item for the sole-perception group ($\bar{X}_E = .74$) proved to be greater than that for the joint-perception group ($\bar{X}_C = .62$) at a level approaching significance, $F(1,25) = 3.95$, $p = .0579$.

Prompts. No significant differences were found either in the mean number of prompts required by subjects ($\bar{X}_E = 8.00$, $\bar{X}_C = 9.43$), $F(1,25) < 1$, or in the number of prompts per item attempted ($\bar{X}_E = .43$, $\bar{X}_C = .47$), $F(1,25) < 1$.

Discussion

The present study suggests that by changing the setting of the speech event from a test situation to one requesting information, the responses of black inner-city preschoolers can be changed along a number of dimensions. These include (a) the amount of verbalization, (b) the grammatical adequacy of responses, and (c) the accuracy of responses. Each of these will be discussed.

Amount of Verbalization

Subjects in the sole-perception condition verbalized more than subjects in the joint-perception condition. The mean number of words produced in the two conditions was significant beyond the .05 level, an impressive finding given the omission of items by children in the sole-perception condition. When this fact was corrected for by calculating the number of words per item attempted, the difference for the two groups was significant beyond the .01 level. This provides additional evidence that black lower-class children are not accustomed to test questions, that they do not perceive the context as the adult middle-class speaker does, and that they do not fully understand how they are expected to behave and respond.

Dore (1977) has analyzed in detail the conditions necessary for a child to give information responses to information questions. His seven conditions include (a) that the child recognizes the addresser's expectation in asking the question, (b) that he/she believes the addresser wants the requested information, and (c) that he/she believes the addresser either does not know the requested information or wants the addressee to display his/her knowledge. According to Dore, if any of these conditions is not met, the child will have trouble with the question. In the case of the black lower-class child, it can be argued that all three of these conditions are often violated, with a resulting disruption of communication.

Unfortunately for the child caught in this situation, while the speaker's intent is covert, it is often assumed to be both obvious and shared. The fact that the answer is "crystal-clear" inhibits the child at the same time that it causes the experimenter to drastically lower his/her appraisal of the child's ability just because the child is unable to make such a "simple" response.

Another factor in subjects' greater production in the experimental situation may have been the absence of environmental support. In a study of child-adult interactions in a classroom and a supermarket, Cole, Dore, Hall, and Dowley (1978) found that responses to information questions about events and objects in the supermarket were longer in the classroom setting than in the supermarket itself, an effect that they attributed to displacement of the topic being discussed. Given the evidence that black inner-city children accommodate to their listeners' needs (Meissner & Apthorp, 1976), it is not at all surprising that in the sole-perception condition they had more to say about the stimuli. They were aware that the interactional demands were different in that their listener needed more information. This is also in line with Bokus and Shugar's (1979) finding that the effect of joint perception is to dampen children's production.

An analysis of experimenter prompts showed no difference between the sole and joint-perception conditions for total number of prompts or number of prompts per item attempted. This suggests that the greater verbalization and accuracy of experimental subjects was due more to features of the situation than to any extra prompting or encouragement.

The Grammatical Adequacy of Responses

There are persistent claims that some poor black children will literally not speak a word in response to questions in a test situation (see, for example, Hurst & Jones, 1967, or Bereiter & Engelmann, 1966). This was not true for any of our subjects. The subject with the lowest rate of verbalization in the experimental condition (45 words total) was a boy, age 4 years, 1 month; in the control condition (48 words total), a girl, age 3 years, 6 months. While this would not be considered unrestrained or fluent speech, it was certainly far from a total failure to verbalize. In an effort to identify a possible basis for such judgments about the level of verbalization of black inner-city children, all responses made by subjects were rated as canonical or non-canonical using a modified version of the Hall and Bartlett (Note 2) scoring system. These researchers classified request-response sequences using three criteria: (a) the syntactic organization of the request-response pairs, (b) the topic of the request and the response, and (c) the sequential organization of the request and response. For example, they considered an answer canonical when it was a sincere response to the question posed, e.g., a response to an information question which supplied the requested WH-element and possibly other information as well.

In the present study, emphasis was placed on the grammatical relationship of the sentence pairs. Responses were considered canonical if they supplied all or part of the information requested by the experimenter. Responses were considered non canonical if they either did not supply the

information requested or answered slightly different questions. Both categories were further broken down to provide more detailed information about the grammatical form of the responses. The following examples refer to three items from the PPVT that showed (a) a girl sweeping, (b) a traffic light, and (c) a light bulb.

Category C1 - Minimal response, e.g., predicate phrase, verb or adjective only. "Sweeping." "Red and green."

C2 - Canonical, elliptical, e.g., article missing. "Girl sweeping floor."

C3 - Canonical, minor grammatical deviations, e.g., definite article substituted for indefinite article. "The girl sweeping the floor."

C4 - Canonical, well-formed short answer. "A girl sweeping the floor."

C5 - Canonical, well-formed sentence. "It's a girl sweeping the floor."

N1 - Non canonical, minor grammatical changes. Response answered a slightly different question than that posed by the experimenter, e.g., a change was made in tense. In addition, there were syntactic irregularities, such as the use of pronouns without prior reference. "She sweeps the floor."

N2 - Non canonical, well-formed sentence, e.g., in response to experimenter's question, "What kind of light?", subject responded, "We put the light up."

R1 - Subject's utterance was related generally to task or setting but not to the identification of a particular experimental item, e.g., subject pointed to tape recorder and asked, "What's that?"

Canonical responses to indirect requests, e.g., experimenter said, "Would you like to put that card down and tell me what's on the next one?" and subject replied, "Yes."

See Dore (1977) for a similar coding system.

The scoring of subjects' responses on the basis of whether or not they were canonical, and details regarding their grammatical structure, provided some insight into the basis for the stereotyped judgments about the speech of black inner-city children (see Table 2). First, it will be noted that

Insert Table 2 about here.

joint-perception subjects produced a higher number of responses of category C1--utterances which responded to the topic of the question but which were grammatically odd because they lacked a subject or were produced with some other intrusive truncation--than did sole-perception subjects. They also produced more non-canonical responses that included such irregularities as the use of pronouns without first mentioning the referent (N1). It was felt that such grammatical irregularities would contribute to listener judgments of non-fluency. The sole-perception group, on the other hand, produced more

well-formed short answers, e.g., "a girl sweeping" and more well-formed full sentence responses (of which there were only three for the control group). Short answers are used by virtually all competent speakers of Standard English and full sentence responses are often expected in certain testing situations. For these reasons, both of these utterance types would contribute favorably to adult judgments of linguistic competence in the children being assessed.

It should also be noted that subjects in the experimental condition directed many more verbalizations to the testers that were not directly related to the stimuli than did subjects in the control condition ($\bar{X}_E = 4.28$ experimental; $\bar{X}_C = .69$ control). This supports the claim that for these children the sole perception condition was a more natural situation than was the joint perception condition in spite of the fact that it was rather contrived.¹ Children in the experimental condition behaved in a way that made a more realistic assessment of their verbal ability possible.

Houston (1970) found that the black children she studied in rural northern Florida had at least two registers, which she labeled the school register and the non school register. The school register was used by her subjects in formal situations and when speaking to those in authority or to those observing or testing them. Houston found that this register included a number of linguistic characteristics such as foreshortened utterances and simplified syntax which are considered indications of nonfluency. The results of the above grammatical analysis suggest that

besides all the other things working against the children in the testing situation, they may have perceived the joint-perception condition as one in which the school register was appropriate and therefore elected to use their less fluent code.

Accuracy of Responses

There was one rather surprising finding in the data that approached significance: Children in the experimental situation gave slightly more answers that were judged correct ($p < .0579$). We know of no sociolinguistic theory that would predict such a finding. If it can be claimed that the sole-perception condition produced less anxiety than the joint-perception condition, then this finding may be an indication of the phenomenon that when subjects are less anxious they do better on a task.

Conclusion

This research provides evidence that the speech situation can be manipulated in a way that will provide a more realistic assessment of the linguistic competence and the knowledge base of inner-city children. The conceptual framework for a great deal of the recent research on language variation has been the "different culture" model. However, Ogbu (1979) has suggested that in fact the language patterns of inner-city children do not represent a different culture. Rather, he sees them as a successful adaptation to the roles that will be available to these children as adults in a stratified society that allows them only a limited number of options.

The positions these children will occupy predicate different skills from those required by middle-class children. Far from being an indication of the family's "failure to socialize," the speech of inner-city children is proof of adaptive socialization which produces competent adults in the existing social structure.

Labov (Note 1) has proposed a similar conceptualization. He analyzes testing situations such as the one investigated in this study as resting on several assumptions, including the "goodness of talk" and the "harmlessness of talk." However, these assumptions are not shared by inner-city children, and they put up stiff resistance to the educational socialization which violates their own beliefs until they reject school as a whole.

These viewpoints suggest that in the testing process as it is now usually conducted, the schools are not facing a lack of familiarity with one dialect and culture on the part of inner-city children, but rather are creating a situation which attempts to elicit behavior that runs counter to an adequate response to social realities. The schools most likely will not be successful in a frontal attack on this constrained verbal behavior. However, the present research provides one way in which the situation may be changed to encourage a greater display of the linguistic and world knowledge of inner-city children.

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Footnote

¹Hall and Bartlett (Note 2) report on the differences in interrogator acknowledgements of answers to requests for information ("I see" or "Un huh") and to test questions ("Yes, that's right" or "That's a good answer"). Bokus and Shugar (1979) report on similar differences in their study which correlated with the sole- and joint-perception situations. In the present study, these experimenter responses were not controlled. In many cases in the sole-perception condition, the experimenter verbalized in a way appropriate for the test question situation, thus making the speech event less natural.

Table 1
Plates on Which Stimulus Items Occur

Item	PPVT Plate No.
Table	1
Bus	2
Horse	3
Baby shoe	5
Children playing	8
Girl sweeping	11
Girl knocking on a door	15
Girl feeding a cat	23
Ambulance	32
Flowers	37
Broken bowl	85
Boy falling down a hill	13
Traffic light	49
Boy riding a bicycle	55
Woman talking on a telephone	65
Boys fighting	69
Automobile tire	19
Man climbing a mountain	95
Castle	97
Light bulb	101

Table 2
Responses Made to Stimuli by Experimental
and Control Groups

Group	Response Types							
	C1	C2	C3	C4	C5	N1	N2	R1
Control								
Number of responses	30	112	20	169	3	33	20	9
Mean/child	2.31 [†]	8.62	1.54	13.0	.23 [*]	2.54 [†]	1.54	.69 ^{**}
Experimental								
Number of responses	13	100	33	282	28	24	30	77
Mean/child	.72 [†]	5.56	1.83	15.67	1.56 [*]	1.33 [†]	1.67	4.28 ^{**}

* $p < .05$

** $p < .01$

[†] Approaching significance

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