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ABSTRACT

Few instruments have been developed for evaluation of expressive vocabulary in early childhood. This project attempted to develop an instrument sufficiently structured to call forth appropriate verbalization yet varied enough to elicit a wide range of responses, and to use the instrument to test whether socioeconomic class groupings can be differentiated by the quantity and quality of the child's verbal output. The Expressive Vocabulary Inventory (EVI), the instrument developed, consists of 40 items in which the child is shown a line-drawing and asked a question to which he answers the appropriate word or phrase. The EVI was given to 204 boys and 226 girls (145 Caucasian and 285 Negro, 300 low and 130 high socioeconomic status categories) in three age groups (36-47 months, 48-59 months, and 60-71 months). No statistically significant differences for sex were obtained within any of the age groups. Some support for a cumulative decrement could be seen by comparing the difference at age 3 with that at age 5, but the small number of 5-year- old children confounded the expected decrement with increase in age for the lower economic status children. (Directions for administering the EVI and sample items are appended.) (LH)

BR 5-0701
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# THE EXPRESSIVE VOCABULARY INVENTORY [1]

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The development of language may be viewed as the development of a cognitive or conceptual system which has as its functions the processing of information, the perceiving of relationships, and the performing of logical operations. Language may also be thought of as a tool with which an individual may gain more effective control over his environment. The three fundamental uses of language have been described as: expressive (how an individual communicates his thoughts, emotions, and wants to others); receptive (how an individual responds to the instructions, commands, and verbalizations of others); and mediational (how an individual uses his own language in solving a wide variety of problems).

The expressive function most clearly demonstrates the instrumental use of language. Although overt verbalization is but one aspect of a child's total language facility, it is one which is basic to the development of the type of intellectual functioning which leads to scholastic and social success (Bernstein, 1964). The more complex and varied the expressive language system a child possesses, the greater will be his ability to communicate adequately in intellectual and social situations.

Despite the fact that expressive language functioning is a critical aspect of total language ability, there are few instruments for evaluating verbal facility in the early years. Most researchers concerned with the development of expressive language in young children have had to depend upon the vocabulary sections of general intelligence tests such as the Stanford-Binet and the Wechsler Preschool Primary Scale of Intelligence,



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or the Peabody Picture Vocabulary Test. All of these are designed to cover a wide age range and hence provide only a very limited sample of the young child's verbal repertoire. The PPVT is relatively easy to administer and score, but it suffers from a further disadvantage in that it only requires the child to identify a correct picture by pointing. With the prevalent emphasis on language development programs for the young child, there is a pressing need for a discriminative measure of expressive language ability.

In the construction of an instrument for the assessment of language functioning, a particular problem is that of devising a situation structured enough to call forth an appropriate verbalization while at the same time varied enough to elicit a wide range of responses. Techniques to assess verbal expressive ability in the past have often attempted to evaluate children's language in naturalistic settings in order to avoid the criticism that single-word vocabulary tests do not present a meaningful measure of language facility. Among a number of relatively unstructured instruments are the Story Retelling Technique (John and Berney, 1967), the Children's Language Sample (Scher and Horner, 1967), and the Standard Telephone Interview (Gotkin, et al., 1964). These language-sampling procedures are extremely difficult and time-consuming to score. Furthermore, there is no objective or simple procedure for categorizing the vast corpus of children's language which can be rapidly accumulated. The necessity for employing expert linguists to listen to many hours of low-fidelity tape recordings, plus the difficulty in achieving rater reliability, make such techniques inappropriate for the assessment of language ability for a large population sample such as a national evaluation program.

The need is for an instrument structured enough to call forth an appropriate vocal response, yet at the same time sufficiently open-ended

to allow for some freedom of expression. It is hoped that the Expressive Vocabulary Inventory (EVI) will prove to be such a measure. It samples across different parts of speech from the vocabulary that children are expected to possess at the time they enter kindergarten. Since it includes a large number of items within a limited age range, it should prove to be a reliable instrument for the prekindergarten and kindergarten age group. The EVI requires the child to produce the appropriate word or phrase, rather than to make a non-verbal selection response. Whereas most vocabulary tests are concerned primarily with nouns, the EVI includes a representative sampling of a variety of parts of speech. It includes the past, present, future, and progressive forms of verbs as well as prepositions, pronouns, adjectives, adverbs, and nouns.

A major purpose of the EVI is to provide an instrument to test the widely-held assumption that socioeconomic class groupings can be differentiated by the quantity and quality of the child's verbal output. A number of researchers (Bernstein, 1961, 1964; Cazden, 1966; and John, 1964) have suggested that language structures and conditions what and how a child learns; that its influence is reflected in the thought and cognitive mode of the learner; and that it has a profound effect upon the setting of limits to future learning. Bernstein has described the flexible and elaborate language systems which characterize advantaged children. In contradistinction, disadvantaged children are described as having a "restricted" language code, one which is limited, condensed, and stereotyped. The restricted code is said to consist of fewer adjectives, adverbs, and progressive verb forms, and to be deficient in nouns describing phenomena outside of the child's everyday experience.

The findings of a research study carried out at the Urban Child Center, University of Chicago (Hess and Shipman, 1965), have also indicated that children from lower socioeconomic class backgrounds enter school with a somewhat different language system than do middle class children. These results are in accord with those of a large cross-sectional language study done at the New York Institute for Developmental Studies. According to Dr. Cynthia Deutsch (1966), the differences in language systems are particularly noticeable in grammatical structures and in language used to express relations. Bernstein (1968) has also pointed out that children from poverty homes tend to use pronouns far more frequently than nouns, with the resulting restriction in the opportunities for using adjectival modifiers. In general, the linguistic code of the disadvantaged child has been found to be simpler in syntax and more limited in descriptive terms and modifiers than that of the middle class child.

A major purpose of the EVI is to provide an instrument for the better evaluation of language proficiency among culturally disadvantaged young children. While still open to the criticisms leveled at vocabulary and labeling tests, it is a defensible measure in that scores on such tests provide a reliable predictor of scholastic and academic achievement, regardless of the basis for the differences in performance on them.

## The Instrument

The 40 items which constitute the EVI were selected after extensive preliminary work. In the first stage, a compilation of hundreds of words from vocabulary lists (e.g. Thornkide and Lorge's Word List; Rinsland's Basic Vocabulary of Elementary School Children; Murphy's Spontaneous Vocabulary of Children in Primary Grades; and Watts' Language and Mental Development of Children), standardized tests (e.g. Stanford-Binet, Wechsler Intelligence

Scale for Children, California Mental Maturity Test, Illinois Test of Psycholinguistic Ability, and Peabody Picture Vocabulary Test), and recordings of teacher vocabulary in kindergarten classrooms. From these tallies, 125 words were randomly selected to represent various levels of frequency of occurrence, with the restriction that the word could be translated into a pictorial stimulus and that a variety of parts of speech would be sampled.

Line drawings of the 125 words were then presented to 104 children between the ages of three to five years and the percentage of children able to label correctly the stimulus words was determined. The original list of 125 words included 83 nouns, 24 verbs, 10 adjectives, and 8 prepositions. The mean percent of errors per word class were 21.5, 16.6, 43.6, and 20.5, respectively. Test reliability was .93 (K-R 20). The items were ranked according to difficulty and approximately every fourth item selected for inclusion in the 40-item version.

One of the serious problems with expressive vocabulary tests is that the child may give an answer which, while not the word the examiner had had in mind, is appropriate to the question. In order to avoid this difficulty, the EVI item frequently includes a model question and answer to call the child's attention to the critical feature. For example, to elicit the preposition "out" the child is shown a picture of two jack-in-the-boxes, one closed and one open. The instructions to the child are:

"This Jack-in-the-box stayed hiding in his house. What did this Jack do?" Any appropriate verb (jumped, popped, etc.) is acceptable as long as it is followed by the desired preposition.

In the final 40-item test, there are six categories of items:

1. Nouns

The child is required to provide the name or label for the object or objects pictured. The questions asked are: "What is this?" or "What are all these called?" or "What is this part called?" There are 15 items of this kind. The objects to be labeled range from those very familiar to the child's everyday experience such as household implements and parts of the body, to those with which he is relatively unfamiliar such as coins and musical instruments. Both singular and plural nouns are included in the test.

2. Verbs

For these items the child is required to give either the simple present, the present progressive, past, or future verb form. There are 12 items of this type, presented in the following ways: "What did this boy do?"; "What are the children doing?"; "What do you think the boy will do with the ball?"; "What do you do with scissors?"

3. Prepositions

The child's use of prepositions is assessed by items dealing with location and spatial relationships. There are five preposition items in the test. The types of questions asked are: "Where is the girl?": and "Where is the dog jumping?"

4. Adjectives

There are five adjective items of which three involve the use of descriptive adjectives and two deal with comparative adjectives. The questions are phrased as follows:

"This picture is round. What about this one?" "This bar is short, but this one is shorter... This one is long, and this one is ...?"

5. Adverb

There is one item dealing with the use of adverbs:

"The turtle is going slow. How about the rabbit?"

6. Pronouns

Two items deal with the use of pronouns. The first part of one sentence requires the use of a nominative pronoun: "She has a ball...."; and the second part of the same sentence requires the use of a possessive pronoun: "...in her hand."

## Testing Procedure

The detailed testing procedure is described with the test given in Figure 1. Warm up or sample questions are not included in the test because

Insert Figure 1 about here (See pages 11-13)

the first few items should offer little difficulty. The examiner enters the child's response on the answer sheet if it varies in any way from the word or words printed on the sheet. Where indicated, additional probes may be used to elicit an appropriate response.

## Scoring Procedure

The correct word or phrase for each item is presented in the right hand column. A fairly rigid criterion is used. With few exceptions, the child's answer must include the key word in order to be scored as correct. In the items dealing with the progressive verb forms, the suffix "ing" must be present to receive credit. If the child, as is often the case, speaks several words or even sentences, these are disregarded.

## Subjects

The EVI has been given to a total of 430 children ranging in age from 36 months to 71 months. There were 204 boys and 226 girls; 145 Caucasian

and 285 Negro children; with 300 from low and 130 from high socioeconomic status families.

## RESULTS AND DISCUSSION

Table 1 presents the percentile distribution of scores by age. As can

Insert Table 1 about here

be seen here, there is a clean progression in expressive labeling facility from year to year. Table 2 presents the means and standard deviations,

Insert Table 2 about here

for the same age groups, by sex, race, and socioeconomic status.

By inspection alone it is clear that no statistically significant differences were obtained for sex within any of the three age groups. Some support for the cumulative decrement can be seen by comparing the difference found at age three with that at age four. Unfortunately, the small sample of five year old Caucasian children (all of whom were from the low SES category) and Negro children (all of whom were from the high SES category) confounds the expected decrement for the lower economic status children with increase in age.

Using the K-R 20 formula, test reliability based on the scores of a subsample of 192 day care children, was estimated as .88. This is quite a respectable reliability figure for such a homogeneous population.

Correlations with other tests were available for 120 children from the same day care population. (See Table 3.) The low correlation with chrono-

Insert Table 3 about here

logical age is not unexpected, nor is the comparatively high correlation with the Peabody Picture Vocabulary Test. However, it was interesting to find that scores on the expressive vocabulary test are not particularly

predictive of ability to form sentences, although there was a significant correlation with imitative ability as measured by the UCLA Echoic Response Inventory for Children (ERIC) The relatively low correlation with the UCLA Children's Auditory Discrimination Inventory seems to indicate that the ability to discriminate sounds is quite different from the ability to produce sounds.

Data from more diverse populations are needed to verify the norms presented at this time. In addition, measures of change over time, related to different types of intervention programs, are needed to establish the validity of this instrument.

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FIGURE 1

EXPRESSIVE VOCABULARY INVENTORY

(EVI)



UCLA Research Projects in Early Childhood Learning

Carolyn Stern, Director



## EXPRESSIVE VOCABULARY INVENTORY (EVI)

UCLA Research Projects in Early Childhood Learning

The Expressive Vocabulary Inventory (EVI) is designed as a measure of verbal facility with young children. It includes 40 items selected after a tabulation of frequencies of words found in primers, word lists, achievement and intelligence tests, and tape recordings of classroom speech. It represents a sampling of the vocabulary children are expected to possess when they enter kindergarten. The EVI provides a larger number of suitable words than most intelligence and achievement measures and should thus be more reliable for this age level. The task requires the actual production of the appropriate word itself.

Whereas most vocabulary tests are heavily weighted with nouns, the stimuli in the EVI represent a variety of parts of speech. There are progressive verbs, pronouns, prepositions, adjectives, and adverbs, as well as verbs, nouns, and collective nouns. Credit is given only if the appropriate word form is used.

### PROCEDURE

The EVI is an individually administered test with the examiner reading the statements on the back of the card, while the child looks at the picture. If the child does not produce the desired word, the statement should be repeated, stressing the appropriate part of the sentence. For example, item 2 attempts to elicit the preposition "in". If when the child is asked, "Where is the cat?" he responds "box," the examiner should repeat the question with emphasis, saying, "Yes, but where is the cat?" A maximum of one probe is permitted per item.

### SCORING

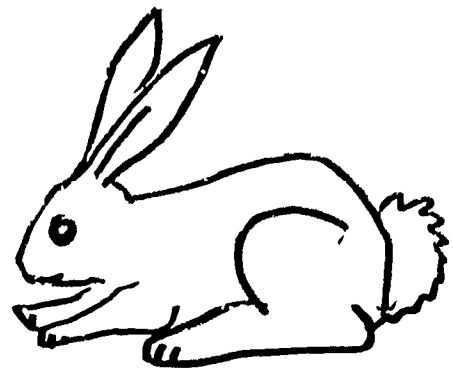
Record on the score sheet when a word other than the one listed is used. If the correct word is produced, enter "+"; if no response, enter "0." The score is the total number of correct words.

THE FOLLOWING FIGURES AND QUESTIONS ARE SAMPLE ITEMS FROM THE EXPRESSIVE VOCABULARY INVENTORY.

Item 1:

What is this?

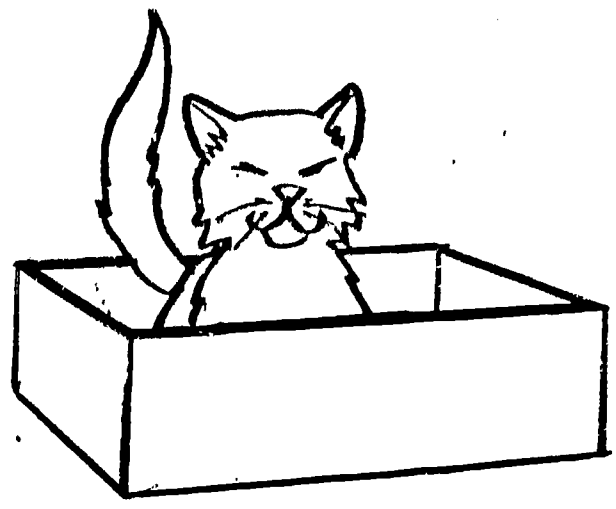
(rabbit)



Item 2:

Where is the cat?

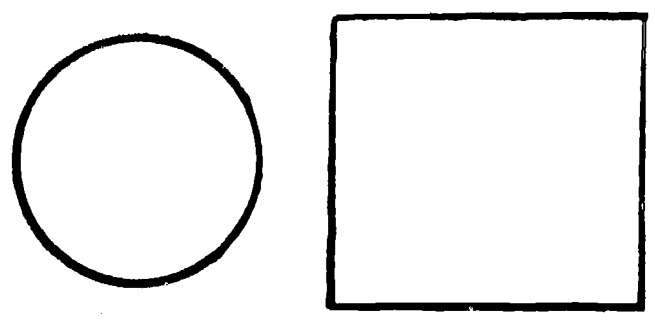
(in)



Item 9:

This picture is round.
What about this one?

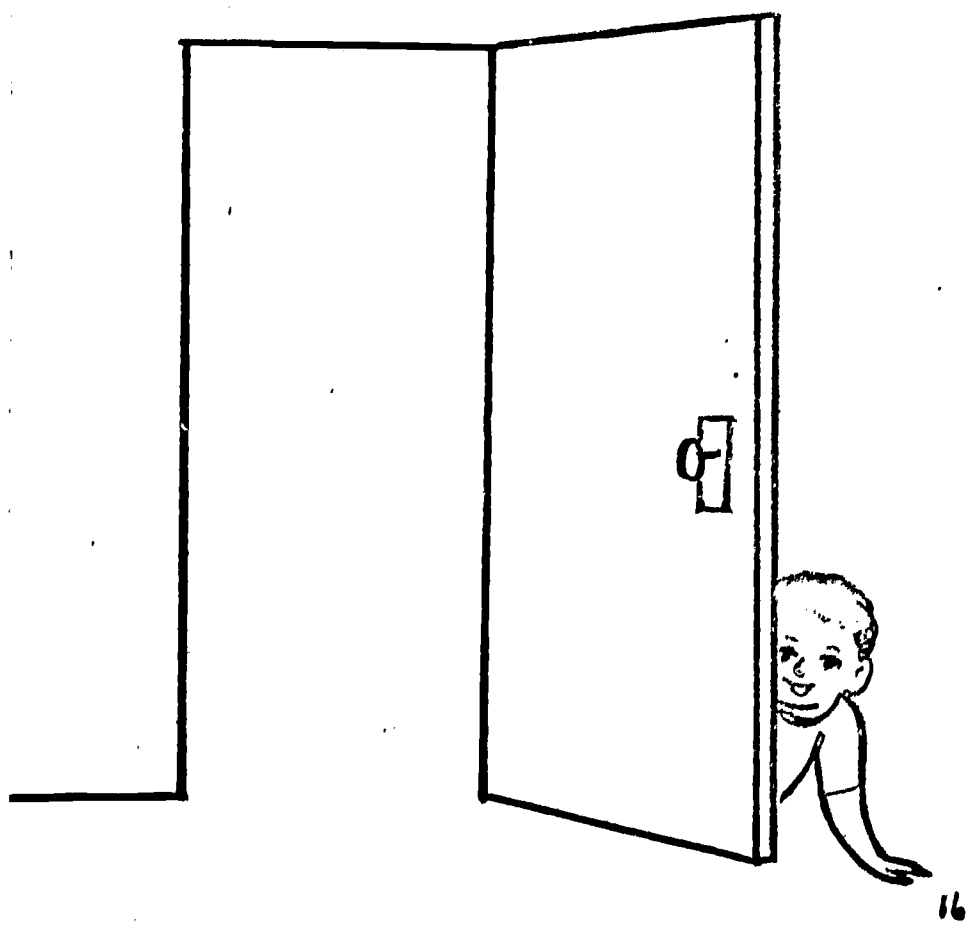
(square)



Item 16:

Where is the boy hiding?

(behind)



Item 26:

This bar is short, but this one is even shorter.

Now this one is long, and this one is even _____?

(longer)

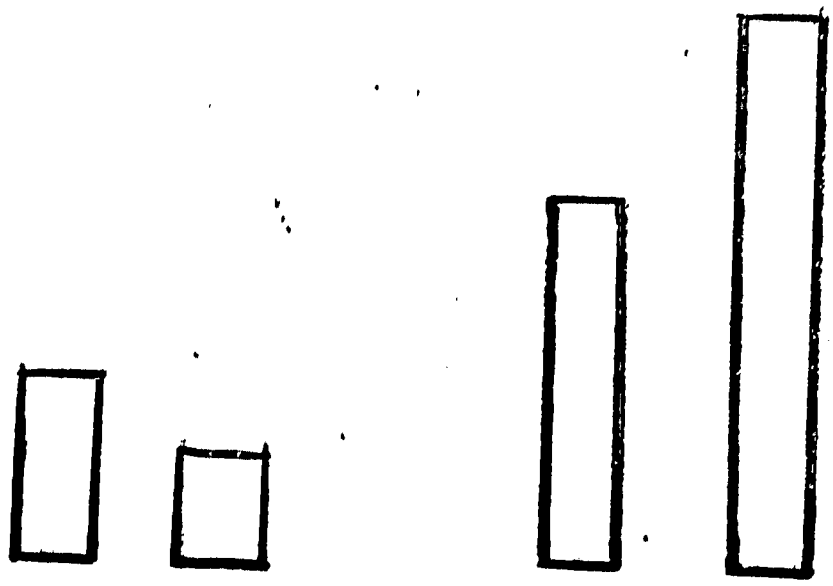


TABLE 1

PERCENTILE DISTRIBUTION OF SCORES ON EXPRESSIVE VOCABULARY INVENTORY (EVI)

| Score | 36-47 Months | 48-59 Months | 60-71 Months |
|---|---|---|---|
| 38-39 | 100 | 100 | 100 |
| 36-37 | 100 | 99 | 98 |
| 34-35 | 100 | 96 | 85 |
| 32-33 | 99 | 92 | 65 |
| 30-31 | 96 | 86 | 41 |
| 28-29 | 92 | 75 | 24 |
| 26-27 | 86 | 68 | 16 |
| 24-25 | 73 | 57 | 9 |
| 22-23 | 60 | 43 | 5 |
| 20-21 | 48 | 31 | 2 |
| 18-19 | 35 | 21 | 2 |
| 16-17 | 24 | 11 | |
| 14-15 | 14 | 5 | |
| 12-13 | 9 | 4 | |
| 10-11 | 8 | 2 | |
| 8-9 | 5 | | |
| 6-7 | 3 | | |
| 4-5 | 2 | | |
| 2-3 | 1 | | |
| N | 132 | 213 | 86 |

TABLE 2

Means and Standard Deviations on Expressive Vocabulary

By Sex, Race, and Socioeconomic Status

| | Age in Months | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 36-47 | | | 48-59 | | | 60-71 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| Boys | 53 | 21.4 | 5.7 | 107 | 24.0 | 6.4 | 44 | 31.0 | 4.9 |
| Girls | 78 | 21.8 | 6.1 | 99 | 25.5 | 5.8 | 49 | 31.4 | 4.1 |
| Caucasian | 55 | 22.9 | 5.1 | 71 | 28.0 | 5.7 | 19 | 30.6 | 5.5 |
| Negro | 76 | 20.7 | 6.4 | 135 | 23.0 | 5.6 | 74 | 31.4 | 4.2 |
| Low SES | 78 | 21.3 | 6.6 | 147 | 23.1 | 5.6 | 75 | 30.7 | 4.5 |
| High SES | 53 | 22.1 | 4.7 | 59 | 28.8 | 5.5 | 18 | 33.5 | 3.7 |

Table 3

Correlations of Scores on Expressive Vocabulary Inventory with other measures[1]

| Test | r |
|---|---|
| Chronological Age | .08 |
| Goodenough Draw-a-Man Test | .30 |
| Peabody Picture Vocabulary Test | .55 |
| Children's Auditory Discrimination Inventory | .36 |
| Echoic Responding Inventory for Children | .67 |
| Parallel Sentence Production Test | .24 |

[1]These data are based on the scores of a relatively homogeneous day care subsample of 120 children.