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## A LANGUAGE TEST OF CHILDREN IN DIFFERENTIAL RURAL ENVIRONMENTS

G. M. WORBOIS

In spite of the fact that fifty per cent of the children of the United States live in rural areas, little is found in scientific literature concerning their abilities. There seems to be some evidence that rural children develop differently in certain respects than do urban children. In so far as this is true the extension of generalizations to them from studies based on city children alone is questionable. It seems important, consequently, to find the differential aspects of development.

The present paper is part of a comprehensive study of rural children. It is a report of one of several exploratory language tests to sound out areas in which there might be differential aspects in the development of rural children. In a study by Baldwin, Fillmore, and Hadley<sup>1</sup> the authors pointed out that the rural children failed language items more frequently than non-language items on the Stanford-Binet Intelligence tests.

The test reported here was designed to find out if children attending one-room schools recognized the meaning of certain socio-economic words and could apply them to situations they designate as well as pupils in a consolidated school. All of the rural children within an arbitrarily defined area in Cedar and Johnson Counties in the fourth, fifth, and sixth grades were selected for study, part of whom (68) went to a consolidated school, and part of whom (60) went to one-room schools. The Stanford-Binet I. Q.'s for children entering the first grade of these schools in the fall of 1940 were approximately the same for the two groups. I. Q.'s for the total sampling were not available.

In making up the test five words were selected from *Time* magazine. Any five words might have been selected but attempt was made to find words which were currently used to identify social and economic forces. The words were: CAPITALISM, CONSCRIPTION, INFLATION, NATIONAL DEFENSE, and NEW DEAL. Eighteen students of various ages and in various departments of the University were asked to give the two things they thought most characteristic of each of these five words. They

<sup>1</sup> Baldwin, B. T., Fillmore, Eva A., and Hadley, Lora., *Farm Children: An Investigation of Rural Children in Selected Areas of Iowa*. New York: D. Appleton and Co., 1930, pp. 238-252.

were given plenty of time and no other restrictions were placed on their answers. From this material descriptions were drawn up which were designed to represent the common meanings of these words. It was purposed to make the descriptions the "common denominator" of various meanings so that intelligent and informed people would not greatly disagree in saying that the word was a proper label for the situation.

The five words and the five descriptions were given to five judges with the request that they apply the proper label to each of the situations. The directions for the judges were the same as those on the test as it was used later. A variety of judges in age and experience was selected so that if there were disagreements concerning the labelling of the situations it would appear. There was perfect agreement, however, among the judges on each of the words. The test was mimeographed and given to the subjects. In each case the tests were administered by the teachers according to specific instructions which included the caution that there should be no comment concerning the test, except that it was one of those being administered by the people from the University. Care was taken so that no unintentional coaching would be possible.

The results were analyzed in two ways (a) the EAI as suggested by Johnson<sup>2</sup> for each word was compared for the consolidated and the one-room groups, and (b) the average scores for the two groups were compared.

Table I below shows the EAI for each of the words in the two samples. The differences are consistently in favor of the pupils in the consolidated school with one exception. Only in the case of "Inflation" was there a larger EAI for the one-room school children, and this word was marked correctly by only a small percent of each of the groups.

Table I. EAI for Children in Consolidated and One-Room Schools

| Word             | No. Correct |        | EAI     |        |       |
|------------------|-------------|--------|---------|--------|-------|
|                  | Consol.     | 1-Room | Consol. | 1-Room | Diff. |
| Capitalism       | 26          | 20     | 14.3    | 10.7   | +3.6  |
| Conscription     | 31          | 19     | 20.4    | 9.7    | +10.7 |
| Inflation        | 15          | 15     | 4.6     | 5.9    | -1.3  |
| National Defense | 51          | 42     | 56.0    | 48.6   | +7.4  |
| New Deal         | 41          | 35     | 36.0    | 33.6   | +2.4  |

In the second place the data were analyzed in regard to the number of labels correctly matched with the descriptions, that is,

<sup>2</sup> Johnson, W., *Language and Speech Hygiene: An Application of General Semantics*. General Semantics Monographs, No. 1., 1939, p. 6.

labels agreeing with those of the judges. It can be seen that there is a regular progression in both samples from grade to grade. The differences for grade six and for the total are significant at the 1% level of confidence according to Fisher's t-test. The other differences are not significant at this level.

Table II. Mean Scores by Grades

|         | N     |      | Consolidated<br>M | One-Room |       | Sig (1%) |
|---------|-------|------|-------------------|----------|-------|----------|
|         | Cons. | 1-Rm |                   | M        | t     |          |
| Grade 4 | 24    | 17   | 2.00              | 1.88     | 1.89  | no       |
| Grade 5 | 22    | 24   | 2.18              | 2.29     | 1.76  | no       |
| Grade 6 | 22    | 19   | 3.09              | 2.32     | 19.47 | yes      |
| Total   | 68    | 60   | 2.412             | 2.183    | 7.32  | yes      |

It is possible that the method of promotion for the two groups is different, influencing the ages of children in any grade. It was found that the range of ages per grade was greater in the one-room schools. The pupils are accepted earlier and are both promoted and retarded more frequently. The grade placement for any age is therefore higher in the one-room school sampling. This should not be thought of as an error factor, but as part of the experimental factor since it is part of the organization and management which go to make up this type of school. Possibly the policy of promotion is used to enrich the curriculum of the brighter ones and to adjust to the needs of those less capable. The influence of this difference in grade placement, if any, would be expected to give the one-room school children an advantage. Table III shows that children in the consolidated school above 9 years of age are higher in mean score, even though they have not gone so far in school. The scores for a few children were not used since their birth dates were not available. The differences seem to favor the consolidated school children, although the differences fail to meet the 1% level of significance according to the t-test.

Table III. Mean Scores by Ages

|           | Consolidated |       | One-Room |       |
|-----------|--------------|-------|----------|-------|
|           | N            | M     | N        | M     |
| Below 9   | 3            | 1.33  | 7        | 1.33  |
| 9—        | 28           | 2.25  | 17       | 1.76  |
| 10½—      | 32           | 2.72  | 24       | 2.21  |
| 12—and up | 4            | —     | 0        | —     |
| Total     | 67           | 2.38* | 48       | 1.88* |

\* Weighted Means.

The evaluation of this test should be guarded, but it seems safe to say that it is probable that better measures of this nature will reveal significant differences between the children attending the one-room schools and the children attending the consolidated school. This does not imply that they know less about the actual facts or principles commonly associated with these terms. It rather shows that they do not understand and apply as well the relations between these terms and the situations to which they are commonly applied by people such as the judges. That is, the children in the one-room schools agree in this respect less well with people of such intelligence, information, attitudes, experiences, etc., as that of the judges. These results if entirely significant would lead one to suspect the further hypothesis that they do not understand as well what is implied when these words are used in other situations.

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