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ABSTRACT

Research analyzed: 1) the treatment of plurals in the Functional Basic Word List for Special Pupils (Stanwix House List), and 2) plural recognition by educable mentally handicapped (EMH) students. Review of the Stanwix House List revealed that plurals were treated as discrete vocabulary items. Using a small sample of EMH subjects, the researchers then tested the hypothesis that if a student knows a singular form, he will recognize the regular plural which adds--s or--es. Procedures for testing knowledge of plurals included: having subjects construct sentences using plurals, having them convert a sentence into a pattern calling for the plural form, and presenting subjects with simplified frames calling for plurals. Aural recognition of plurals was also tested. The results supported the hypothesis. It was concluded that, in using the Stanwix House List for the assessment of vocabulary level of materials, regularly formed plurals may be categorized at the same level as the singular form, but that irregular plurals should be thought of as separate words subject to their own recognition levels. This research was part of the development of an instrument to analyze the vocabulary level of films and test questions presented to EMH students. (PB)

INVESTIGATIVE REPORT #7227
Penelope Wood
Jack H. Bond
November 1972

STANWIX HOUSE VOCABULARY STUDY: PLURALS

Penelope Wood

ABSTRACT

The purpose of this two-part study was to analyze both the treatment of plurals in the Functional Basic Word List for Special Pupils (Stanwix House, 1958) and the recognition of plurals by educable mentally handicapped (EMH) subjects. Part one of the study, a review of the Stanwix House list, revealed that the plural forms of words are treated as discrete vocabulary items. In the second part of the study, a small sample of EMH subjects were used to test the hypothesis that if a student knows the singular form of a word, he will recognize the regular plural form (addition of -s or -es). The procedures for testing knowledge of plurals included: having the s construct sentences using the plural form of a word, having the s convert a sentence into a pattern calling for the plural form, and presenting the s with a simplified frame calling for the plural form. Aural recognition of plurals was also tested. The results supported the hypothesis. It was concluded that, in using the Stanwix House Basic Word List for the assessment of vocabulary level of materials, regularly formed plurals may be categorized at the same level as the singular form of the word. Irregular plurals should be thought of as separate words subject to their own recognition levels.

SPECIAL REPORT No. 7227
COMPUTER-BASED PROJECT for the EVALUATION of MEDIA for the HANDICAPPED

Title: STANWIX HOUSE VOCABULARY STUDY: PLURALS

BY: Penelope Wood

BACKGROUND

The Computer Based Project for the Evaluation of Media for the Handicapped, based on contract #OEC-9-423617-4357 (616) between the Syracuse (N.Y.) City School District and the Media Services and Captioned Films Branch, Bureau of Education for the Handicapped (United States Office of Education) for the five year period July 1, 1969 through June 30, 1974. The major goal is to improve the instruction of handicapped children through the development and use of an evaluation system to measure the instructional effectiveness of films and other materials with educable mentally handicapped (EMH) children, in-service training and media support for special teachers, and studies related to the evaluation process and the populations used.

The Project has concentrated on the 600 films and 200 filmstrips from the Media Services and Captioned Films (BEH - USOE) depository; however, specific packages from Project LIFE, various elementary math curricula, and selected programs from Children's TV Workshop have also been evaluated. The evaluation model used requires that: 1) objectives of materials be specified and written; 2) instruments be constructed to test and measure effectiveness; and, 3) children be the major sources of evaluation information. A number of instruments and methodologies are employed in the gathering of cognitive and affective data from 900 EMH children and 80 special teachers to make the effectiveness decisions. Over half of the EMH population can neither read or write; therefore, a unique Student Response System (SRS) is employed, consisting of a twenty station G.E.-1000 SRS which can be operated in a group or individual recording mode and is connected to a remote computer system. The computer capabilities consist of remote telephone connections to the Rome (N.Y.) Air Development Command, the Honeywell time-shared network, and the Schenectady (N.Y.) G E Research and Development Center; and batch mode capabilities of the Syracuse City Schools, Syracuse University, and various commercial sources.

In-service and media support activities provide on-the-job training for teachers, teacher aides, equipment, and materials to the special teachers in the city schools. The research activities have centered around investigations and special problems related to the development of the evaluation model. The four major areas considered are: 1) testing effects, 2) captioning effects, 3) special student characteristics; and, 4) evaluation procedures validation.

Documentation of the major activities appear in the five annual reports and the 600 evaluations prepared on materials used. Staff members were encouraged to prepare special reports and the attached paper is one of these. The opinions expressed in this publication do not necessarily reflect the position or policy of the Computer Based Project, the United States Office of Education, or the Syracuse City School District, and no official endorsement by any of the agencies should be inferred.

Investigative Report 7227
Penelope Wood
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November 1972

Stanwix House Vocabulary Study: Plurals

The Computer Based Project for the Evaluation of Media for the Handicapped is developing an instrument to analyze the vocabulary level of films and test questions presented to mentally handicapped students (EMH). The Functional Basic Word List for Special Pupils (Tudyman and Groelle, 1958), hereafter referred to as Stanwix House List, is being used as the standard to measure both the child's vocabulary and that of the film narration or caption against the difficulty classification of the Stanwix House List.

The Pilot Project Report (Research Report 725) specified precedures for determining a student's vocabulary level. Three tests were developed: a verbal recognition test to determine a student's ability to read a written word, a written word meaning test where students were asked to place a given (written word) in context, and an oral word meaning test where students were asked to list word associates for the word presented and use it in a sentence. These testing and rating procedures verified the Stanwix House List classifications as being appropriate for EMH students in the City School System (Lewis, 1972). From the initial results questions for further study were raised, among them the issue of

plural forms and whether or not plurals are to be categorized as being at the same level as the singular (or root) form of the word. A two-part study was developed to analyze both the treatment of plurals in the Stanwix House List and the recognition of plurals by EMH subjects.

Study I

Reviewing the Stanwix House List, the investigator found both regular and irregular plural forms as recorded in Table I. Several of these plurals are listed without singular counterparts: ashes, gentlemen, peas, stockings. Some have no commonly used singular form: clothes, dues, politics, slacks. It was noted that when both singular and plural forms of a word were listed, the listing of the plural form preceded that of the singular in four cases: children, feet, leaves, mice. Such ordering suggests that a child may learn words meaning more-than-one for objects commonly paired or grouped before he learns the singular form, though such speculation is digression from the concerns of this study. No reference is made to plurals in the discussion of Criteria for Selection, Stanwix House List. It appears that the singular and plural forms of the word are considered as separate words, a plural form treated as a discrete vocabulary item in itself. Thus one cannot conclude from the list that a child will recognize a pluralized word if he knows the singular form.

TABLE I

PLURALS AND THEIR BASIC WORD LIST CLASSIFICATIONS

STANWIX HOUSE LEVEL I					LEVEL	LEVEL
A	B	C	D	E	2	3
					ashes	
	children		child			
			clothes			
			cooky cookies			
		feet	foot			dues
				goose geese		
				gentlemen		
		leaves	leaf			
					match matches	
	man	men				
				mice	mouse	
			peas			
						politics series
					slacks	
				stairs stockings		
					trousers	
		woman			women	
					woods	

Study II

To determine student recognition of regular plural word forms, observations were made. The investigator sought to establish whether or not a student, knowing the word boy, would recognize boys as a variant form. A hypothesis was formed: if a student knows the singular form of a word, he will recognize its plural formed regularly through the addition of -s or -es.

Method

Seven primary and six intermediate EMH students served as the test population. These children were selected randomly from three available EMH classes and tested individually.

Two of Lewis's tests, the Written Word Meaning Test and the Oral Word Meaning Test, were combined to determine the subjects' knowledge of the singular form of the word. Eight nouns which may be converted to plural forms by the addition of -s or -es (allomorphs /s/, /z/, or /iz/) were selected at random from the first three sections of the Stanwix House List (1A, 1B, 1C) and typed on the Test Word Sheet. Proper nouns, words equivalent in both noun and verb forms (i.e. guess), and nouns having mass dimension (i.e. water, grass) were excluded. Recognition of plural forms of these words was tested using one of several verbal procedures specified below. An assumption was made that if a student demonstrated knowledge of a word and expressed its plural form in context, he would recognize the aurally presented plural word. In cases where a subject appeared to have difficulty with verbal expression, the examiner introduced an additional Oral Word Recognition Test, combining a word presented orally with iconic representation

and asking the student to differentiate between singular and plural items.

Procedures. The examiner presented a selected word from the List using the combined Written/Oral Word Meaning Tests. The subject demonstrated knowledge of word meaning either by defining the word or by using it in a sentence. Responses were recorded on the rating sheet. Generally, words were presented in the same order in which they appear in the List, beginning with those from List IA. If the student could not demonstrate knowledge of the selected word, another word from the same group was selected and the procedure repeated.

To test a subject's knowledge of the plural form of the word, the student was presented with one of three verbal procedures, depending on the relative ease with which he constructed sentences for the singular forms. A subject unable to build sentences easily was supplied with frames calling for plurals, as specified in procedures 2 and 3.

(1) The student, having demonstrated knowledge of the singular form of a word, was asked:
"Do you know what word we would use for more than one _____?"
SR: (affirmative)
E: "Can you use it in a sentence?"
SR: (student constructed statement utilizing plural form of given word)

(2) The student was presented with the sentence which he had constructed for the singular, converted (by the examiner) to a pattern calling for the plural form.

SR: "My baby is crying."
E: "Two _____ are crying."

(3) The student was presented with a simplified frame calling for the plural.

SR: gesture pointing to eye
E: "Two _____"

An additional pilot procedure to test aural word recognition and discrimination between singular and plural forms was developed for students who appeared to have difficulty with verbal expression. Simple line drawings representing items corresponding to the noun labels were presented. A page of such items might include lone and grouped stick-figure drawings of boys, cars, faces, and clocks. A student was presented a singular or plural form of the word orally and asked to point to the corresponding image. Thus one could test whether or not the child could associate the orally presented noun with its corresponding iconic representation and whether or not he discriminated between lone singular forms and plural grouped figures. A variation of this procedure occurred as several students became enthusiastic and asked permission to make their own drawings. In this case, the examiner presented a word orally, asked the student to draw what he thought the word represented, and then asked him to draw the plural form: dogs, faces. Finally, several of the words selected, especially names for parts of the body, could be tested for aural recognition by simple pointing procedures. A child was asked to point to an eye, then to point to his eyes; to life a leg, then to lift his legs.

Results

Students from the intermediate EMH group and those from primary groups differed markedly in their facility with language. All six subjects from the intermediate group knew the meanings of words presented from Levels IA, B, and C. Five of the six subjects tested constructed

plural forms orally, adding /s/, /z/, or /iz/ to each word presented. Subject 6 constructed plurals for all forms presented, except those formed with the /iz/ allormorph: box (IB), face (IC), and noise (IC). The experimenter noted, however, that the subject emphasized the concluding sibilant in pronouncing these words, as though adding /s/.

Of the primary EMH students tested, two were able to work with the Oral/Written Word Meaning Test and construct plural forms orally. Subjects 7 and 8 showed variation of response for words ending in sibilants, as did subject 6. Other primary subjects tested had some difficulty with verbal expression but were able to demonstrate some aural word recognition both of singular and plural forms. When asked to point to one object or more than one (eye, eyes), the subjects generally showed discrimination between singular and plural forms. When the procedure in which the child drew his own pictures was used, the child, presented the plural word, drew more than one of whatever figure he had used for the singular form. The results are summarized in Table II.

Statistical analysis of the data was not performed. The McNemar test for significance of changes was found applicable; however, since of the total observations only one difference between singular and plural form word recognition was found, subjecting of data to significance testing would produce little additional information.

Discussion

Results support the hypothesis that if a student knows the singular form of a word, he will also recognize its plural if the plural is regularly formed through the addition of -s or -es. It is necessary

TABLE II

Summary of Responses:
Word Identification and Plural Form Recognition

S	Words Presented	Singular Form Identified	Plurals: Aural Recog.	Plurals: Oral Exp.	Difference Scores
1	13	13	-	13	0
2	13	12	-	12	0
3	12	12	-	12	0
4	12	12	-	12	0
5	12	12	-	12	0
6	13	13	*3	10	0
7	12	12	*1	11	0
8	9	9	*2	7	0
9	9	8	6	2	0
10	12	12	12	-	0
11	9	7	7	-	0
12	7	3	2	-	1
13	5	1	1	-	0

Subjects 1 - 6 are from the intermediate DHH group;
Subjects 7 -13 are from the primary DHH group.

* Subjects 6,7,and 8 demonstrated general facility in constructing plural forms, however, they failed to add the standard allormorph /iz/ to words ending in sibilants. In the judgment of the examiner, they recognized the plural form but did not promounce the additional syllable.

to emphasize here that the investigator was not testing for plural concept, which would require more finely discriminating procedures that those used, nor was the investigator testing primarily student capability or patterns of expressing standard plural forms. However, over half of the students tested were able to express the standard plural forms; and it may be assumed that when a student can express with consistency the plural forms orally, he will recognize them aurally. The responses of subjects 6,7, and 8 for words ending in sibilants may well indicate dialect variation rather than inability to construct a plural form. The examiner noted both the consistency of pattern and the apparent stress of /s/, as described above.

Subjects who could not construct plural forms demonstrated aural recognition of both the plural nature of the word and its semantic association with the singular form,. Thus where the Stanwix House Basic Word List is used for assessment of vocabulary level of materials, regularly formed plurals may be categorized at the same level as the singular form of the word. Irregular plurals should be thought of as separate words subject to their own recognition levels.

Implications. Results suggest directions for further study, especially differences between reading (visual) and auditory recognition of word forms by primary EMH children. The pilot procedure used to test aural word recognition and discrimination between singular and plural forms prooved effective. The test could be administered to a larger test population (N = 254) with results subjected to the McNemar test for significance of changes. Furthermore, since CBP interest in

children's word recognition is associated with project emphasis on assessment of media, especially films and filmstrips, a test instrument could be developed using projected visuals and administered either to groups or to individuals.

The verbal procedures adapted from Lewis, though effective with intermediate EMH children, proved questionable with primary subjects. The language limitations of these children were demonstrated in observations made by the investigator. A student's oral reading of a word was no guarantee of comprehension; nor could his understanding be measured by whether or not he could or chose to read a given word. It is suggested that descriptive procedures whereby an examiner obtains samples of verbal expression through classroom and playground observation or informal interviews be used to obtain measures of verbal behavior for primary EMH children. Such samples, especially if taped, could be analyzed for questions of word usage.

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