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A comparison between deaf and hearing children in regard to the use of verbs and nouns in compositions describing a short motion picture story.

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**FIVE COLLEGE
DEPOSITORY**

A COMPARISON BETWEEN DEAF & HEARING CHILDREN
IN REGARD TO THE USE OF VERBS AND NOUNS
IN COMPOSITIONS DESCRIBING A SHORT MOTION
PICTURE STORY

REAY - 1938

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I. INTRODUCTION

Language enables us to communicate to others our experiences and observations and to transmit that which we have learned. Without language, there can be no civilization, no culture. Man has been able to transmit to his children the experiences of all the preceding generations through language. The importance of language is very adequately stated by McCarthy (6):

Language is the medium by which higher intellectual processes are revealed. It is the essential means of social communication, and is the outstanding system of habits which distinguishes man from the lower animals. Consideration of the vast gap between man and the lower animals gives some insight into the tremendous importance of language in the development of the race, and of the inestimable heritage every normal child has in the mother tongue. Language accounts for the marked contrasts between peoples, and between the intellectual development of the congenitally deaf child and that of the normal child.

The hearing child, upon entering school, already has a very well-developed and a very elaborate system of language habits which serve as the basis for his more formal education. He can express himself orally--all his needs, wants, and ideas--his every action finds expression in some form of language. His first years of school are concerned chiefly with developing the secondary forms of language, namely, reading and writing. But the congenitally deaf child, upon entering school, has very little, if any language. His lack of hearing has prevented him from incidentally acquiring speech. Even the small amount of language the adventitiously deaf child has acquired enables him to make a higher educational score than the con-

genitally deaf child. The conclusions of the surveys made by Upshall (13), Pintner (11), and Reamer (12) all agree that the later the onset of deafness the higher the achievement in educational achievement tests. The problem in the education of the deaf would then seem to be to diminish the difference in language achievement between the deaf and the hearing.

A qualitative approach to the functions of language in a child's life shows the importance of vocabulary for language development. McCarthy (8) states:

It appears that language develops in accordance with the child's needs. What needs does he satisfy by the use of verbal responses? What kinds of responses are used in these various situations, and what changes do these responses show as the child grows older? Which overt bodily responses are first superseded by verbal responses? Adults, as well as children, use language for different purposes. At times, an adult's language serves only to assert, words state objective facts, they convey information, and are closely bound up with cognition. At times, on the other hand, language expresses commands or desires, and serves to criticize or to threaten, in a word to arouse feelings and provoke action. If this functional problem is present in adult language, how much more important is it in the case of the small child who has no well-established linguistic habits.

There have been no studies of the vocabulary of deaf children. This paper, then, is chiefly concerned with a comparison of the writing vocabularies of deaf and hearing children. How are they different in regard to the use of verbs and nouns? What is the retardation of deaf children in the use of verbs and nouns? What are some of the qualitative differences between deaf and hearing children in the use of verbs and nouns? These are the questions upon which this investigation intends to throw some light. This study is not meant to be a final and conclusive comparison of the general writing vocabularies

of deaf and hearing children but it can be looked upon as a starting point for the comparison of their general writing vocabularies.

II. LITERATURE

There are two possible methods of classifying vocabularies: the one using the total number of words used, and the other the number of different words used. Most of the vocabulary investigations have tried to determine the total number of words used by hearing persons and attempted to arrive at lists of their most frequently used words. There have been no attempts made by investigators to determine the total number of words used by deaf children or to arrive at a list of their most frequently used words. Investigations have been made of the understanding vocabulary, speaking vocabulary, and the writing vocabulary of hearing persons, but none of deaf persons.

Two of the best known word lists in the field are those by Thorndike (10) and E. Horn (4). E. Horn investigated the writing vocabulary of adults. He used various kinds of written correspondence as material. He determined the frequency of all the words used in these letters and then critically selected the 10,000 words most commonly used. His purpose was to make available such information which would be of interest and practical value to the great body of teachers and supervisors. Driggs (1) investigated the writing vocabulary of children. He used letters of children, 12 to 15 years old, which were written out of school. He made two lists, one list containing the 1,000 words most frequently used which he checked against

Thorndike's first 1,000, and the other list contained words not found in the Thorndike first 1,000 words but which were more revealing of the child's interests and activities. The nouns were found to name the most common things around us and the verbs asserted the most simple actions. His purpose in making these lists was to offer to the English teacher a working knowledge of the actual words used by children when they write of their own volition and not as a result of any school assignment. Zyve (14), E. Horn and M. D. Horn (5, 6), and others have investigated the speaking vocabulary of children. They recorded the conversations of children in order to determine the total number of words they used. They also made lists of the most commonly used words.

The only study concerning the vocabulary of deaf children was made by Groff (3). It was not a study of the understanding, the speaking or the writing vocabulary of deaf children. It was a study of the different word lists which are taught to first-year deaf pupils in 64 public residential schools for the deaf and 117 public day schools for the deaf in the United States. Groff requested each school to compile, and send her, its own list of words which contained the total number of words which it teaches to deaf children during their first year in school. She made, from these lists, a list of words, containing all of the parts of speech, which she suggested as a basic vocabulary to be taught to deaf pupils during their first year in school.

III. METHOD OF PROCEDURE

1. The Collection of Material

In this investigation the vocabulary of compositions was studied. The vocabulary of a composition depends on: (1) the vocabulary available to the child and, (2) the content of the subject. This study desires to conclude something about the vocabulary of deaf and hearing children. It wants to determine the vocabulary available to the child. It is not interested in the content of the subject; therefore the content was excluded. There are two ways to do this; the one using a wide variety of compositions for data material, and the other by keeping the content of the subject constant. The former method is necessary when the total vocabulary is to be determined. The latter method is the better method when one wants to compare groups, and it excludes the "factor of interest", which is of influence when letters are taken as data material. So, one moving picture was used in order to keep the content constant. Of course this study has to be followed up by other studies in order to find out whether the same differences are true with other pictures.

A silent motion picture film of about two to three minutes duration was prepared. The story of the film was of a very simple nature. There were only two characters in the story; a small boy and a woman.

The film was shown to the children by classes. It was shown to each group two times. Then they were asked to write a composition describing the motion picture story they had

seen. The description of the environment, the action, and the emotions of the characters were left to each individual child to describe in his own way. No help or suggestions were given the children during the writing of their compositions.

2. Subjects Used for the Comparison

The subjects used for this comparison were: (1) deaf children from three different public residential schools for the deaf and (2) hearing children from three different public schools. There were 303 compositions, written by deaf children, which were collected from Clarke School for the Deaf at Northampton, Mass., the Pennsylvania School for the Deaf at Mt. Airy, Pa., and the North Carolina School for the Deaf at Morganton, N. C. There were 821 compositions, written by hearing children, which were collected from the public schools of Amherst, Northampton, and Florence, Massachusetts. Table I shows the number of deaf and hearing children there were in each age group.

Deaf children of the ages 11 to 17 years were used in the comparison with hearing children, 8 to 14 years, because of the educational retardation of deaf children. In 1921 Reamer (12) made a survey of 2500 deaf children to determine how much a deaf child is retarded mentally, educationally, and in school grades. From these tests Reamer concludes that the deaf child is retarded:

mentally	two years
educationally	five years
school grades	three and a half years

TABLE I

Total Number of Children in Each Age Group

Age	8	9	10	11	12	13	14	15	16	17	Total
Deaf				29	28	37	46	54	48	61	303
Hearing	75	104	93	108	156	171	114				821

In 1928 Pintner (11) made a survey of 4,432 deaf children, using the same methods and tests as Reamer did. He concluded that the average deaf child from 12 to 15 achieves on the educational tests what the 8 or 9 year old hearing child achieves. These surveys, and the study Upshall (13) made on the material Pintner collected in this survey, are the only surveys that have been made of deaf children for the purpose of finding out how much the deaf child is retarded educationally.

Because of the results gained by Reamer and Pintner it was thought best to use, in this comparison, two groups of children who are nearly equal educationally. For instance, the group of 11 year old deaf children were compared to the 8 year old group of hearing children; the 12 year old group of deaf children were compared to the 9 year old group of hearing children and so on with the rest of the age groups.

3. Handling of Material

(a) Tabulation of Verbs and Nouns

Only the verbs and nouns of the 1124 compositions were recorded in this study. All proper names of persons and places were omitted. The verbs and nouns were recorded in two separate lists. The words were listed in alphabetical order. Experience with earlier tabulations made it possible to estimate rather closely the space which should be left between words beginning with different letters so that newly found words could be written in alphabetical order. The frequency of children using each word was tabulated. The tabulation

was done on ruled paper of one-eighth inch squares and each child was assigned a vertical row of squares with the same number as his composition in order to keep from recording a word twice for a child. A word used once or a great many times was counted as a frequency of one time per child. This procedure of tabulation was carried out for each age group of each school.

From the above word and frequency tabulation per child the sum of frequencies of children using a word in each age group of each school was obtained. The sums of frequencies of children of the three deaf schools were recorded together in order to get the absolute number of deaf children using each word at each of the seven age levels. The sums of the hearing children were handled in the same manner.

(b) Classification of Words in Groups According to Their Meaning

In order to determine whether there is a difference between the vocabularies of deaf and hearing children in regard to the meaning content of words used, all verbs were classified into the following groups:

1. Bodily Movement -- i.e. come, creep, run
2. Eat or Drink -- i.e. gulp, eat, swallow
3. Moral -- i.e. steal, obey, scold
4. Social Acts (non-verbal) -- i.e. help, give, lead
5. Social Acts (verbal) -- i.e. say, answer, call
6. Miscellaneous -- i.e. need, contain, grow

7. Expression -- i.e. smile, cry, moan
8. Sickness -- i.e. ache, hurt
9. Posture -- i.e. lean, sit, lie
10. Perception -- i.e. see, look, hear
11. Intellect -- i.e. decide, think, imagine
12. Emotional -- i.e. feel, want, love
13. General -- i.e. have, do, make
14. Time Relations -- i.e. begin, finish, stop
15. Manual Activity -- i.e. bring, put, hold
16. General Activity -- i.e. prepare, treat, work

The verbs in the Miscellaneous category are verbs of different meanings which could not be classified in any of the other categories. Any verb in this category was only used by a small number of children.

In the same manner all nouns were classified into the following groups:

1. Sickness -- i.e. headache, bellyache, pain
2. Remedies -- i.e. medicine, castor-oil
3. Anatomy -- i.e. face, arm, stomach
4. Toys -- i.e. doll, dog, plaything
5. Utensils -- i.e. bottle, dish, tablespoon
6. Fruit -- i.e. apple, banana
7. Meals -- i.e. lunch, meal, supper
8. Environment -- i.e. lawn, street, ground
9. Movie -- i.e. film, picture
10. School -- i.e. books, lesson, school
11. Time -- i.e. morning, minutes, years

12. Individuals -- i.e. boy, mother, lady
13. House or parts of a house -- i.e. window, porch, room
14. Amount -- i.e. dose, bite, spoonful
15. Miscellaneous -- i.e. luck, contents, sun
16. Nouns used as parts of Standard Phrases -- i.e. matter, thing, name
17. Abstract -- i.e. sign, plea, trouble

The nouns in the Miscellaneous category are nouns of different meanings which could not be classified in any of the other categories. The nouns in the category "Nouns used as parts of Standard Phrases" were used in the following manner: "What is the matter?" and "The boy's name is ---." etc.

(c) Computation of the Percentages of Children Using Each Word

In order to determine age trends in word usage both hearing and deaf children were divided into an older and a younger group. The ages of the younger deaf group ranged from 11 to 14 years and the ages of the younger hearing group ranged from 8 to 11 years. The older deaf group comprised children from 15 to 17 years of age, the older hearing group children from 12 to 14 years of age. There were 380 children in the younger hearing group and 441 children in the older hearing group, thus, making a total of 821 children in the combined group. There were 140 children in the younger deaf group and 163 children in the older deaf group, thus, making a total of 303 children in the combined deaf group. All of the words were recorded, by categories. The total number of children

using each word in the younger, the older and the combined groups were also recorded.

The percentages of children using each word in each group were then obtained. That is, say for the word "come", the percentages of younger, older and combined groups of children using that word were determined. This was done for both the deaf and the hearing groups of children using the word "come".

IV. RESULTS

1. Total Number of Verbs and Nouns Used by Each Age Group

The first question which has to be answered is: how many different verbs and how many different nouns were used in writing these compositions by deaf and hearing children at each age level? Since the total number of words used depends on the number of compositions written, it would not be a fair comparison of two age groups if in one group there is a greater number of compositions. For example, it would not be a fair comparison to compare the total number of different verbs used by twenty-nine deaf children, 11 years old, in writing twenty-nine compositions to the total number of different verbs used by seventy-five hearing children, 8 years old, in writing seventy-five compositions. There weren't the same number of deaf and hearing children in all of the age groups. This influence was excluded by taking a group of thirty children as a basis to work from, which is approximately the number of children in the lowest three age groups of the deaf children, in order to obtain a total number of different verbs

and nouns used by each age group. Any word used by one or more children in the 11, 12 or 13 year old deaf groups, in which groups there were about thirty children each, was counted as one word. A word used by only one child in the 17 year old deaf group, in which there are sixty-one children, was counted as half of a word. Which also means that a word would have to be used by two or more children in the 17 year old deaf group in order for that word to be counted as one different word. Thus, the number of different words used by each age group of both deaf and hearing children were determined in reference to a basis of thirty children in a group.

In Table II the total number of verbs and nouns used by deaf and hearing children by age groups have been recorded. It can be seen that the 11 year old deaf group is retarded about three years in the use of verbs and nouns since it only used about the same number of different verbs and different nouns as the 8 year old hearing group. The 11 year old deaf group used fifty-six different verbs and forty-six different nouns to the 8 year old hearing group's fifty-three and six tenths different verbs and fifty and six tenths different nouns, respectively.

From Figure 1, which shows the data for verbs in a graph, it can also be seen that the deaf children of the three lowest age levels show a three year retardation in the use of verbs. The deaf children of the next four age levels have fallen more than three years behind the hearing of the four highest age

TABLE II

Total Number of Verbs and Nouns Used by Deaf and Hearing Children by Age Groups. The Figures are Equalized so that They are True for Thirty Children in each Age Group

Age	8	9	10	11	12	13	14	15	16	17
Verbs Deaf				56	59	67	72.6	77	76.5	83.5
Verbs Hearing	53.6	63	69.5	84	89	99.7	109			
Nouns Deaf				46	54	68	56.5	68	75.4	77
Nouns Hearing	50.6	56.6	61.6	61.7	70	73.5	68.5			

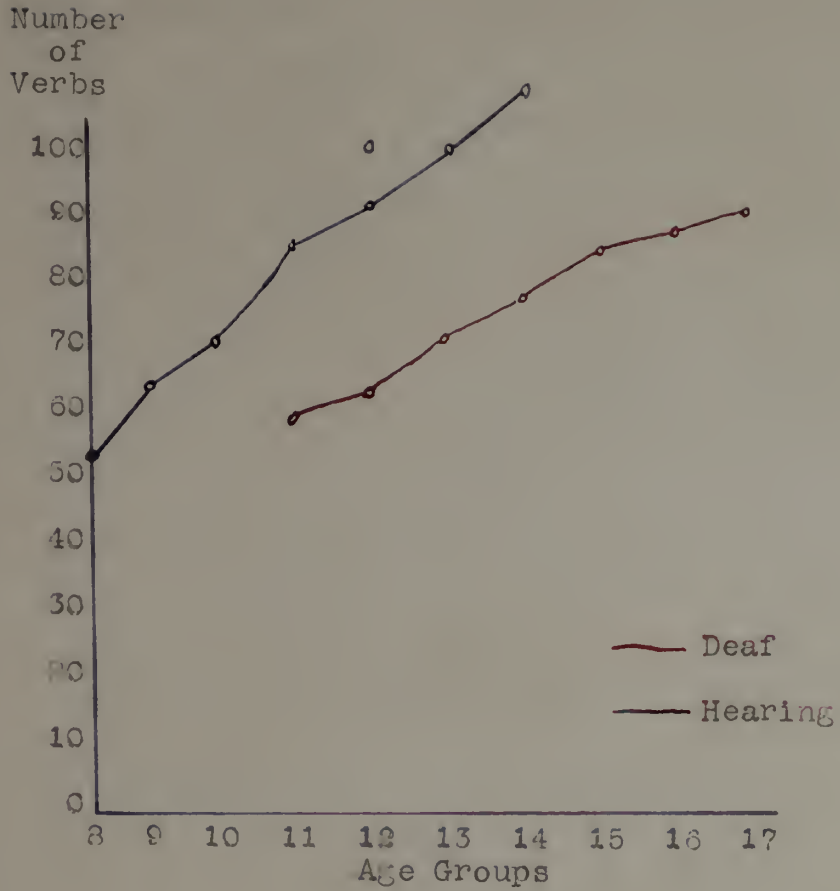


Figure 1

Number of Different Verbs Used by Deaf and Hearing Children at Different Ages; Taking Them in Groups of Thirty

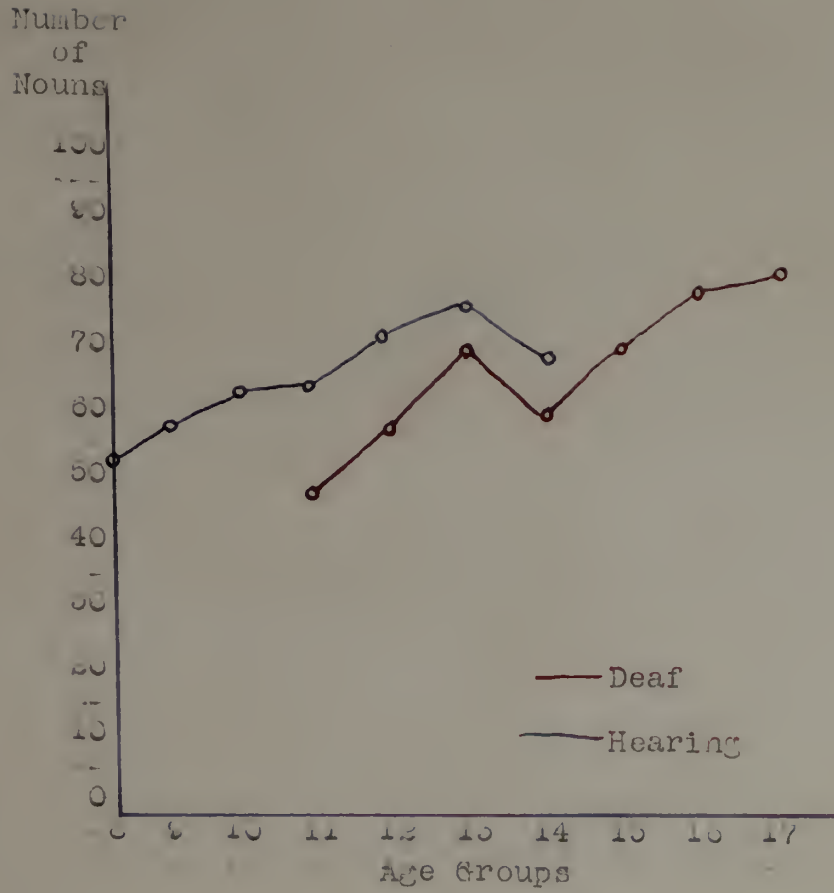


Figure 3

Number of Different Nouns Used by Deaf and Hearing
Children at Different Ages; Taking Test in
Groups of Thirty

levels in the use of verbs. The 14 and 15 year old deaf children are about four years behind the 11 and 12 year old hearing children, respectively. The 16 and 17 year old deaf children are about five years behind the 13 and 14 year old hearing children, respectively, in the use of verbs.

From Figure 2, which shows the data for nouns in a graph, it can be seen that the deaf children all seven age levels show a three year retardation in the use of nouns. On the whole it can be said: there is a greater difference between deaf and hearing children in the use of verbs than there is in the use of nouns; and the difference in the use of verbs increases with age.

Using the results of Table II the ratio of verbs to nouns used by hearing and deaf children at each age level was obtained. Table III and Figure 3 show these ratios. It can be seen that both the deaf and the hearing children used slightly more than one verb to one noun at each age level. The ratio of verbs to nouns goes up with hearing children, and goes slightly down with deaf children. This is only a different expression of the fact that, with age, the total number of verbs used by the hearing children increase at a faster rate than the nouns do, while the deaf children's total number of verbs and nouns increase, with age, at about the same rate.

TABLE III

Ratio of Verbs to Nouns Used by Deaf and Hearing Children

Age	8	9	10	11	12	13	14	15	16	17
Deaf				1.22	1.10	1.02	1.3	1.13	1.01	1.08
Hearing	1.06	1.11	1.12	1.35	1.27	1.35	1.6			

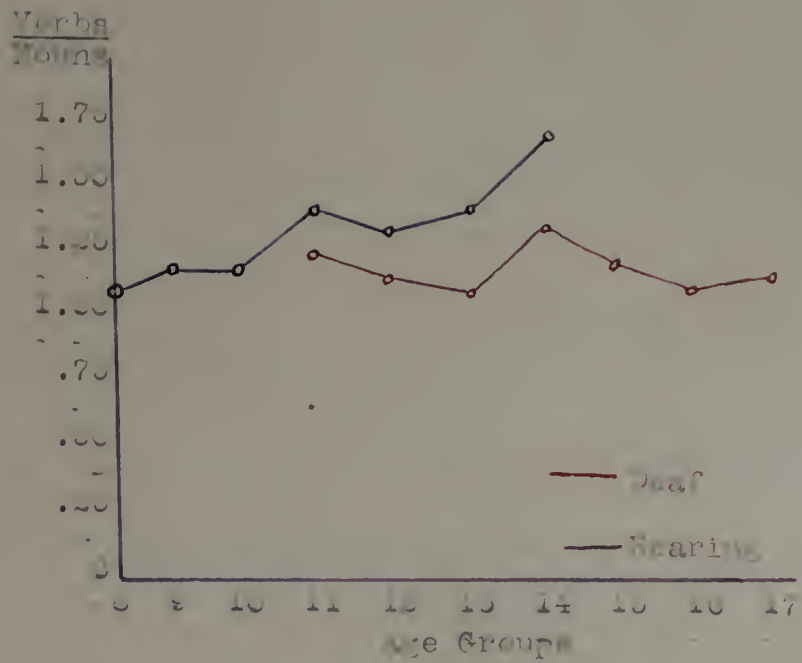


Figure 3

Ratio of Verbs to Nouns Used by
Deaf and Hearing Children

2. Variety of Vocabulary

The second question which has to be answered is: is the variety or uniformity of vocabulary the same in both groups of children? The number of different words used by all the deaf children and all the hearing children in each category, were arranged, according to the percent of children using them, in frequency tables in intervals of 10 percent. Separate frequency tables for verbs and nouns were made. The fact that there were about three times as many hearing children as there were deaf children was equalized by the following method: a word used by one or more deaf children was counted as one word and a word used by three or more deaf children counted as one word. A word used by one hearing child was counted as a third of a word, a word used by two hearing children was counted as two-thirds of a word, and a word used by three or more hearing children was counted as one whole word.

In Table IV the number of different verbs used by all the deaf children and all the hearing children in each category were recorded in intervals of 10 percent of children using them. From this table we can see that of the nine verbs used by the hearing in the category "General Activity" eight are used by less than 10 percent of the children and the other is used by a percentage of children between 10 and 19.9 percent. Of the verbs, belonging to this category, used by the deaf children three are used by less than 10 percent of the children and the other verb is used by a percentage of children between 10 and

19.9 percent. Table V contains the nouns which were recorded in the same manner as the verbs in Table IV were.

Tables IV and V, and Figures 4 and 5 show that most of the verbs and nouns used by both deaf and hearing children are used by less than 10 percent of the children and that there is little difference in the use of verbs and nouns by more than 10 percent of the children. For instance of the 173 different verbs used by the hearing children 136 were used by less than 10 percent of the children, and of the 122 verbs used by the deaf children eighty-six were used by less than 10 percent of the children. The verbs are more varied, in usage, for hearing children. The hearing group is less uniform in the use of both verbs and nouns. This is better seen by obtaining the quotient of frequency of nouns (verbs) used in less than 10 percent of the compositions divided by frequency of nouns (verbs) used in more than 10 percent of the compositions. This quotient of nouns for the hearing children is 4.5, while it is 2.87 for the deaf children. This quotient of verbs for the hearing children is 3.78, while it is 2.33 for the deaf children. We can see from the results that more deaf children use the same words to express the same meaning than the hearing children do. The same meaning is expressed by the hearing children in their own individual ways.

FREQUENCY OF VERBS, BY CATEGORIES, IN INTERVALS OF 10 PER CENT OF THE CHILDREN*

Bodily Movement	Posture	Fat Drink	Perception	Intelligence	Emotional	Generational	Time Relations	Gen. Activity	Sickness	Manual Activity	Moral	Miscellaneous	Social Acts (non-verbal)	Social Acts (verbal)	Totals									
															Hearing Deaf									
100																								
90	+1	-1				-1	+1						-1		-4	+4								
80	-1		+1						-1						-3	+2								
70					+1		+1			+2				-1	-1	+5								
60	+1	-1				-1				+1					-3	+2								
50	+1					-1								+2	-1	+3								
40					-1		-1				+1			-1	-3	+2								
30	-1		+1		-1		+1			-2					-4	+3								
20		-1			+1		-1			-3					-7	+3								
10	-2	+2		-1	+3	+1	-1	+1	-1	-2	+2			-3	-10	+13								
0	-17	+8	-5	+3	-7	+6	-9	+4	-9	+4	-8	+7	-7	+5	-5	+4	-8	+3	-14	+10	-1	+6	-1	+86

* Negative numbers---hearing children
 Positive numbers---deaf children

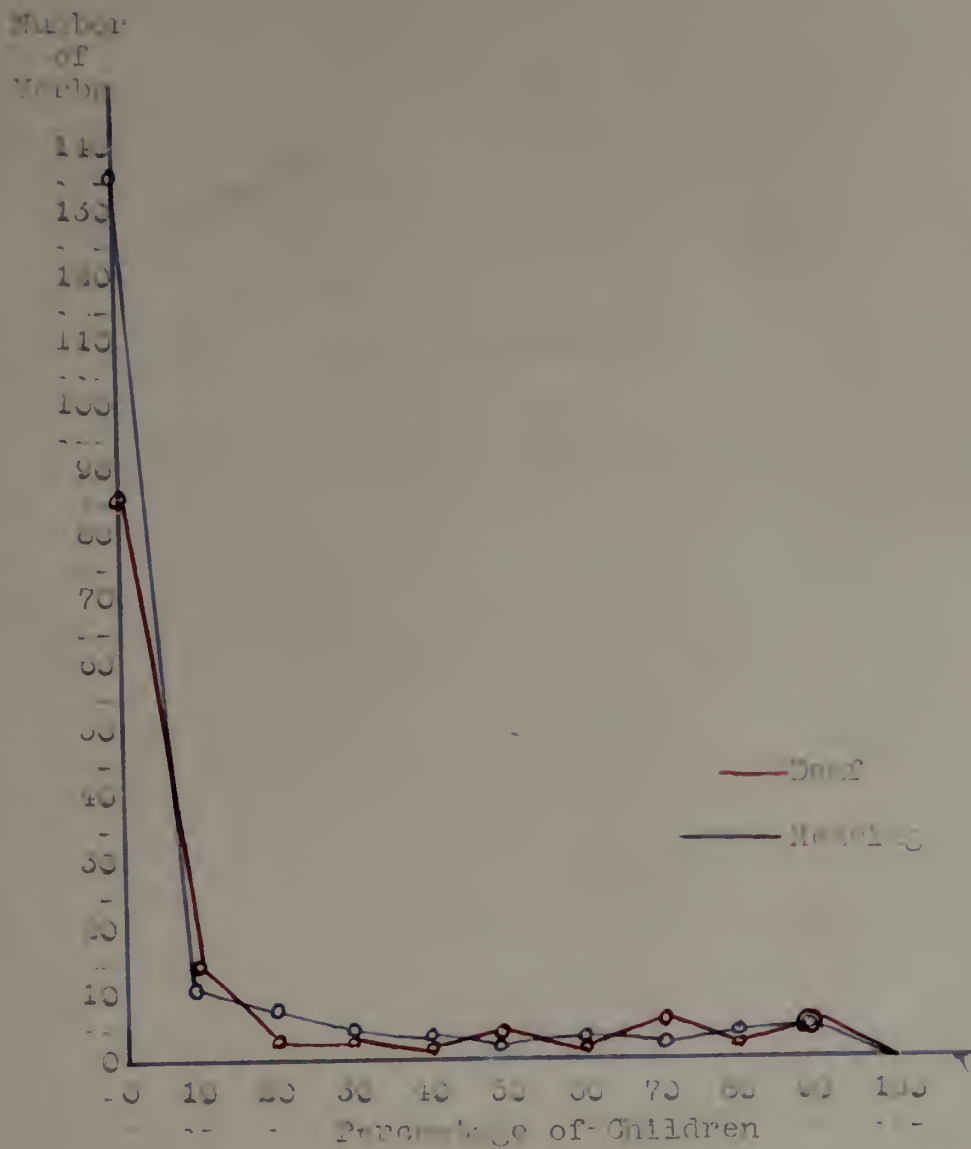


Figure 4

Frequency of Verbs in Intervals of 10 per cent
of the Children

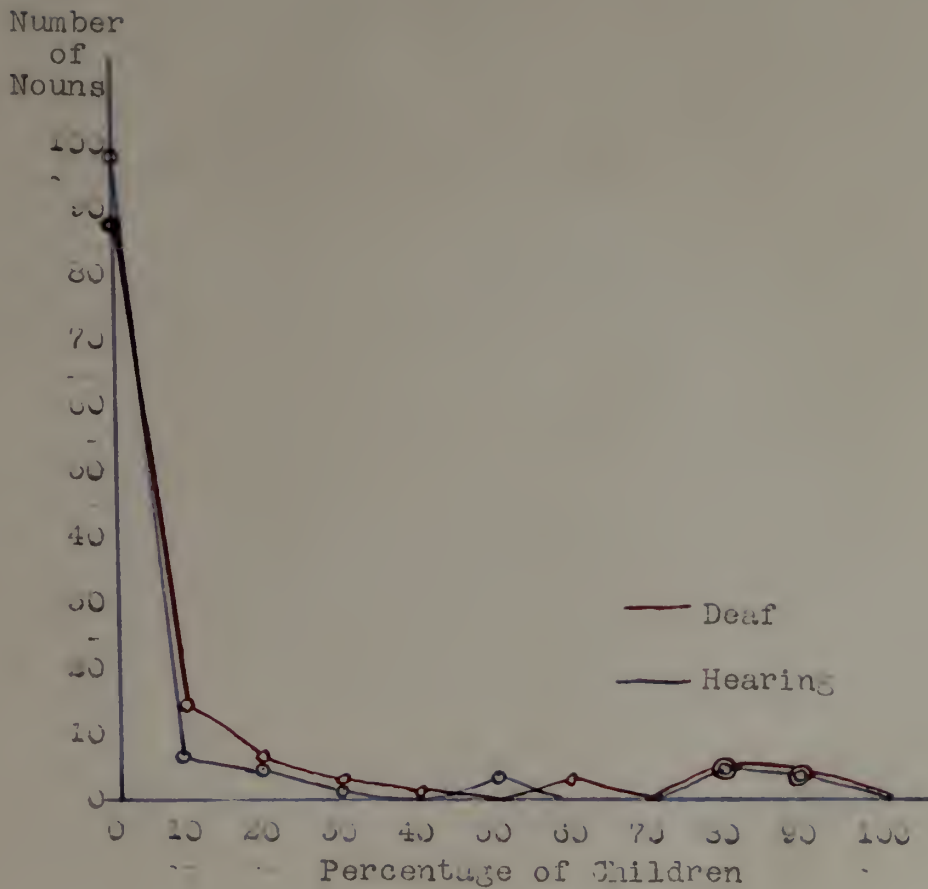


Figure 5

Frequency of Nouns in Intervals of 10 per cent
of the Children

3. Difference Between Deaf and Hearing Children in Regard to the Different Categories of Verbs and Nouns Used

The next question to be answered is: are there differences between deaf and hearing children in regard to the different categories of verbs and nouns used? Tables VI and VII show, by categories, the total number of different verbs and nouns used by the deaf and hearing children and the differences between the two totals of each category. For instance, we can see that in the category "Perception" the hearing used twelve different verbs and the deaf used eight different verbs which is a difference of four in favor of the hearing group. These Tables also show the totals of the percentages of the words used by the two groups of children in each category. These percentages are the sums of the percent of children using each word in each category. For example, in the category "Perception" in which the deaf children used eight different verbs, the percentages of children using each of the eight verbs were added which amounted to 220.5 percent. The sum of the percentages of hearing children using verbs belonging to this category amounted to 182.12 percent. The difference between the frequency of children using the words in each category was expressed by subtracting the percentage-sum for the hearing, 182.12 percent, from the percentage-sum for the deaf, 220.5 percent, and then dividing the sum of these two totals (220.5 plus 182.12) into the D-H difference.

It can be seen from Table VI that the hearing children

used a greater number of different verbs than the deaf children did in every category. Table VII shows that the hearing children used a greater number of different nouns than the deaf children in only about half of the noun categories. The verbs in all but three of the categories are used by a greater frequency of deaf children and in ten of the seventeen noun categories the nouns are used by a greater frequency of deaf children. This means that although the deaf children used a smaller number of different verbs in every category than the hearing children, the verbs that they did use were used by a higher percentage of children in all but three categories. In the case of the nouns the deaf used about the same number of different nouns as the hearing children did, but here again the fact is shown that the nouns as well as verbs, are used by a higher percentage of children. There are some differences between the two groups using some of the categories. In the verb categories the deaf used the Intellect, Emotional, Perception, Sickness, Moral, and Miscellaneous categories more than the hearing, and the hearing used the Time Relations and General Activity categories more. The other categories are more or less even. In the noun categories the deaf used the Toys, Meals, Environment, Time, and Nouns as Parts of Standard Phrases categories more than the hearing children, and the hearing used the School, Amount, and the Abstract categories more. There may be some interesting explanations of why a group of children used a certain category more than the other group. Take for instance the category "School" which is used

Table VI

The Total Number of Different Verbs, the D-H Difference Between the Total Numbers and the Totals of the Percentages of Deaf and Hearing Children Using the Different Verbs in Each Category

Verb Categories	Number of Different Verbs Used		D-H diff.*	Percentage Totals		$\frac{D-H}{D+H*}$
	Hearing	Deaf		Hearing	Deaf	
Bodily Movement	22.33	13.	-9.33	265.8	243.1	-4.5
Eat or Drink	8.	7.	-1.	104.36	115.8	+5.2
Moral	5.74	5.	- .74	10.7	47.9	+63.5
Social Acts (non-verbal)	8.48	7.	-1.48	101.58	113.	+5.3
Social Acts (verbal)	19.29	13.	-6.29	166.82	193.7	+7.5
Miscellaneous	5.70	3.	-2.70	3.27	5.2	+23.
Expression	4.	2.	-2.	2.46	2.6	+2.8
Sickness	3.	2.	-1.	6.15	9.	+18.7
Posture	7.	6.	-1.	107.93	115.3	+3.3
Perception	12.	8.	-4.	182.12	220.5	+12.5
Intellect	9.74	7.	-2.74	34.50	58.6	+26.
Emotional	10.44	10.	- .44	88.14	117.7	+14.4
General	11.	9.	-2.	256.9	271.	+2.7
Time Relations	7.74	5.	-2.74	78.5	33.6	-40.
Manual Activity	30.44	21.	-9.44	316.51	325.4	+1.4
General Activity	8.59	4.	-4.59	16.81	12.2	-1.4
Total	173.49	122.0				

* + difference in favor of deaf children
 - difference in favor of hearing children

Table VII

The Total Number of Different Nouns, the D-H Difference Between the Total Numbers and the Totals of the Percentages of Deaf and Hearing Children Using the Different Nouns in Each Category

Noun Categories	Number of Different Nouns Used		D-H diff.*	Percentage Totals		$\frac{D-H}{D+H*}$
	Hearing	Deaf		Hearing	Deaf	
Sickness	6.74	4.	-2.74	28.17	27.6	-1.02
Remedies	5.22	8.	+2.78	87.42	99.5	+6.
Anatomy	13.48	13.	-.48	83.35	73.7	-6.
Toys	6.74	9.	+2.26	11.81	25.4	+36.
Utensils	9.85	9.	-8.85	64.1	82.2	+12.4
Fruit	4.	8.	+4.	150.7	141.2	-3.
Meals	.74	4.	+3.26	.24	1.5	+72.
Environment	9.70	10.	+ .3	21.19	56.7	+46.
Movie	4.	3.	-1.	11.8	10.3	-6.8
School	3.11	2.	+1.11	9.56	7.3	-13.
Time	7.22	8.	+ .78	18.42	56.6	+51.
Individuals	12.96	12.	-.96	200.00	200.2	+ .05
House or Parts of a House	21.07	22.	+ .93	314.62	387.7	+10.
Amount	3.	2.	-1.	13.	8.3	-21.
Miscellaneous	6.70	3.	-3.70	3.27	3.6	+ 4.8
Nouns Used as Parts of Standard Phrases	4.0	4.0	0	20.5	52.6	+44.
Abstract	3.11	1.0	-2.11	1.58	.3	-68.
Total	121.64	120.0				

* + difference in favor of deaf children
 - difference in favor of hearing children

more by hearing children; this may be explained by the fact that the deaf children live in residential schools which are made as much like home for the deaf child as possible and so words that refer to going or coming to school are less frequently used. Then in the case of the category "Meals" which is used more by the deaf children, this is more important and more of a ritual for a deaf child who is away from home and so more words referring to it are learned and used, thus, this may be a reason for superiority here. The superiority of the deaf child in the usage of the category "Toys" may be explained by the fact that his beginning vocabulary is more planned and deliberately set up by the use of toys.

4. Reliability of the Difference in the Percentages of Deaf and Hearing Children Using Verbs and Nouns

The next question which has to be answered is: are the differences between deaf and hearing children in the use of verbs and nouns reliable? Using Edgerton and Paterson's "Table of Standard Errors and Probable Errors of Percentages for Varying Number of Cases" (2) the standard error of the difference between the percentage of hearing children and the percentage of deaf children using each word was found. The formula for finding the standard error of the difference was:

$$\sigma_{DIFF.} = \sqrt{\sigma_1^2 + \sigma_2^2}$$

Then by dividing the standard error of the difference into the difference between the percentages the reliability of the difference of each word was obtained.

In Table VIII are the verbs showing reliable differences arranged in two columns. In one column are all the verbs, in descending order, in which the difference showed that they were significantly used more by the deaf children. These words are designated by the positive (+) symbol. The other column are all the verbs, in descending order, in which the difference showed that they were significantly used more by the hearing children. These words are designated by the minus (-) symbol. All of the nouns showing a reliable difference were treated in the same way in Table IX.

There were twenty-seven verbs and twenty-two nouns, with reliable differences ranging from 14.5 and 12.5 to 3 respectively, which were used significantly more by the deaf children. There were twenty-six verbs and twelve nouns, with reliable differences ranging from 16.2 and 9.7 to 3 respectively, which were used significantly more by the hearing children.

TABLE VIII

List of Verbs in which there is a Significant Difference in the Percentage of Deaf and Hearing Children Using Them

$\frac{D(D-H)}{\delta \text{ diff.}}$		$\frac{D(D-H)}{\delta \text{ diff.}}$	
<u>Deaf</u>		<u>Hearing</u>	
want	+14.5	rap	-16.2
knock	+14.3	finish	-13.3
tell	+12.5	come	- 9.3
steal	+12.4	bring	- 8.7
open	+10.7	start	- 8.4
hear	+ 9.0	feel	- 7.1
eat	+ 6.7	ask	- 6.8
give	+ 6.4	take	- 6.8
name	+ 5.8	rub	- 6.5
sit	+ 5.7	have	- 6.0
send	+ 5.7	tap	- 5.1
get	+ 4.5	lean	- 4.8
become	+ 4.5	appear	- 4.7
look	+ 4.4	reach	- 4.4
run	+ 4.4	repeat	- 4.0
put	+ 4.3	peek	- 3.9
pour	+ 3.8	sneak	- 3.9
find	+ 3.5	shake	- 3.8
like	+ 3.5	guess	- 3.24
think	+ 3.5	happen	- 3.24
count	+ 3.4	ache	- 3.2
let	+ 3.3	return	- 3.2
say	+ 3.3	grab	- 3.2
peel	+ 3.24	be	- 3.0
stay	+ 3.0	seen	- 3.0
beg	+ 3.0	decide	- 3.0
walk	+ 3.0		

TABLE IX

List of Nouns in which there is a Significant Difference in the Percentage of Deaf and Hearing Children Using Them

$\frac{D(D-H)}{6 \text{ diff.}}$		$\frac{D(D-H)}{6 \text{ diff.}}$	
<u>Deaf</u>		<u>Hearing</u>	
medicine	+12.5	castor-oil	-9.7
ground	+ 10.0	lady	-9.4
floor	+ 9.5	post	-7.5
room	+ 7.5	head	-7.0
matter	+ 7.25	peels	-6.6
mouth	+ 7.2	dose	-6.4
day	+ 6.7	tummy	-4.4
sill	+ 5.5	feet	-4.0
tablespoon	+ 5.25	stomach	-3.7
door	+ 4.0	stairs	-3.4
porch	+ 4.0	child	-3.24
woman	+ 3.9	forehead	-3.0
son	+ 3.9		
window	+ 3.7		
basket	+ 3.6		
name	+ 3.26		
skins	+ 3.3		
afternoon	+ 3.16		
pole	+ 3.0		
years	+ 3.0		
grass	+ 3.0		
noise	+ 3.0		

The verbs of Table VIII, in the categories to which they belong, are here shown with the credit-numbers that each word has in Thorndike's "Teacher's Word Book" (10) of the 10,000 most widely occurring words:

	<u>Deaf</u>		<u>Hearing</u>	
Bodily Movement	run	115	come	157
	walk	108	appear	70
Eat or Drink	eat	88	sneak	6
			return	68
Moral	steal	41		
Social Acts (non-verbal)	give	145		
	send	95		
Social Acts (verbal)	tell	121	ask	94
	say	140		
	beg	45		
Miscellaneous Expression				
Sickness			ache	21
Posture	sit	85	lean	37
Perception	hear	114	peek	4
	look	144		
	find	131		
Intellect	name	134	guess	57
	think	124	decide	55
	count	66		
Emotional	want	110	feel	88
	like	172		
General	become	88	have	194
	get	136	happen	63
	let	132	be	206
	stay	84	seem	100
Time Relations			finish	72
			start	78
			repeat	47
Manual Activity	knock	39	rap	13
	open	126	bring	110
	pour	45	rub	33
	put	131	take	162
	peel	12	tap	28
			reach	93
			shake	50
			grab	6
General Activity	work	151		
Average credit number		<u>100.7</u>		<u>75.6</u>

The higher the credit-number of a word in Thorndike's list the more frequent that word is used and the more widely occurring that word is. It can now be seen that the verbs which are used significantly more by the deaf children, as a whole, are more frequently used than the verbs which are used significantly more by the hearing children. In other words, they used the more widely occurring verbs. The deaf children did not use relatively more but absolutely more verbs in which there were significant differences.

There may be some interesting explanations of why a group of hearing children used certain commonly occurring verbs significantly more than the deaf group did. Take for instance, the verbs "have" and "be" which are used more by the hearing children; these two words are too often used in difficult verb forms and thus are avoided by the deaf child. The verbs "take", "come", and "bring" have reference to difficult relationships which the deaf child doesn't seem equal to using. The verbs "finish", "start", and "repeat" are words which involve the understanding of time relations. The deaf children do not use the word "ask" as much as the hearing children, perhaps because of the difficult sentence construction that "ask" involves. The synonyms "rap" and "tap" were used significantly more by the hearing children because of the widely occurring use of the verb "knock" by the deaf children. The verb "hear" is used more by the deaf children because it has been very important in his life.

The nouns of Table IX, in the categories to which they belong, are here shown with the credit-numbers that each word has in Thorndike's list of the 10,000 most widely occurring words:

	<u>Deaf</u>		<u>Hearing</u>	
Remedies	medicine	29	castor-oil	--
Anatomy	mouth	69	head	132
			tummy	--
			feet	82
			stomach	18
			forehead	32
Utensils	tablespoon	4		
	basket	54		
Fruit	skins	56	peels	12
Time	day	176		
	afternoon	59		
	years	151		
Individuals	woman	120	lady	63
	son	82	child	85
House or Parts	floor	79	post	55
	room	98	stairs	40
	sill	7		
	door	107		
	porch	30		
	window	84		
	pole	47		
Amount			dose	7
Miscellaneous	noise	49		
Environment	ground	90		
	grass	64		
Nouns Used as Parts of Standard Phrases	matter	107		
	name	134		
Average credit number		77		44

It is also true with the nouns, as it was with the verbs, that the nouns which are used significantly more by the deaf children, as a whole, are more widely occurring nouns than the nouns which are used significantly more by the hearing children. The deaf children used absolutely more nouns in which there were significant differences.

The use of the nouns in the categories "Utensils", "House or Parts", and "Environment" show that the deaf children are more matter of fact in their descriptions. A lack of vocabulary knowledge is shown in the deaf children by their use of an improper term for the covering of a banana; they named the banana covering "skin" while the hearing children used a correct term by using the noun "peels".

The frequent use of the nouns "name" and "years" show that the deaf children widely use standard introductions such as: "The boy's name is ---." "He is 6 years old." The noun "noise" is more used by deaf children because everything which relates to auditory experiences is emotionally toned for the deaf.

Tables X (verbs) and XI (nouns) show the number of verbs and nouns, by categories, with the possibility of significant differences and the number of verbs and nouns with significant differences. For instance, in the category "Bodily movement" there were twelve verbs with frequencies so great that a significant difference could have appeared, but because of the nearly equal frequency that those verbs were used by both groups of children only six of the twelve showed significant

differences. Approximately 50 percent of the number of verbs and nouns whose frequency was so great that a significant difference could have appeared showed significant differences.

TABIE X

Number of Verbs, by Categories, with the Possibility of Significant Differences and the Number of Verbs with Significant Differences

Verb Categories	Number of Verbs with Possibility of Significant Differences	Number of Verbs with Significant Differences
Bodily Movement	12	6
Eat or Drink	4	1
Moral	2	1
Social Acts (non-verbal)	5	2
Social Acts (verbal)	9	4
Miscellaneous	1	
Expression		
Sickness	2	1
Posture	4	2
Perception	7	4
Intellect	6	5
Emotional	4	3
General	11	8
Time Relations	6	3
Manual Activity	20	13
General Activity	3	1
	96	54
Total		

TABLE XI

Number of Nouns, by Categories, with the Possibility of Significant Differences and the Number of Nouns with Significant Differences

Noun Categories	Number of Nouns with Possibility of Significant Differences	Number of Nouns with Significant Differences
Sickness	3	0
Remedies	3	2
Anatomy	9	6
Toys	3	0
Utensils	7	2
Fruit	4	2
Meals	0	0
Environment	2	2
Movie	3	0
School	2	0
Time	5	3
Individuals	7	4
House or Parts of a House	15	9
Amount	2	1
Miscellaneous	1	1
Nouns Used as Parts of Standard Phrases	4	2
Abstract	0	0
Total	70	34

5. Comparison of the Age Trends in Deaf and Hearing Children

The results have shown that there is a difference between deaf and hearing children in regard to the different categories. What we want to find out now is: does this difference change with age--that is, does the vocabulary of the deaf children become more like or more unlike that of the hearing children as they grow older? In Table XII are recorded the percentages and the total of the percentages of deaf and hearing children, for younger and older age groups, using the verbs which are used significantly more by the deaf children. The verb "to want", for instance, was used by 33 percent of the 380 children in the younger age group, by 28 percent of the 441 children in the older hearing group, and so on. Percentages of children in both hearing groups and both deaf groups using each verb were recorded. Then the sums of these percentages for each group, in both hearing and deaf groups, were obtained. Table XIII shows the percentages of the verbs which are used significantly more by the hearing children recorded in the same manner as the verbs and percentages were in Table XII. Tables XIV and XV show the nouns, percentage of children using each noun in each age group, and the sums of these percentages recorded in the same manner as the verbs were in Tables XII and XIII, respectively.

From Tables XII and XIII it can be seen that the deaf children become more unlike the hearing children as they grow older in the use of verbs, no matter if the verbs were used significantly more by the deaf or the hearing children. The

TABLE XII

Percentages, by Age Groups, of all Verbs which are used significantly more by Deaf Children

+ Difference	Hearing		Deaf	
	380 8 - 11	441 12 - 14	140 11 - 14	163 15 - 17
want	33	28	69	79
knock	28	28	69	72
tell	12	21	58	57
steal	3	5	50	32
open	28	30	57	75
hear	1.3	3	24	28
eat	91	96	99	100
give	89	93	97	100
name	3.7	1	12	12
sit	61	73	77	82
send	0	1	12	7.5
get	65	57	65	81
become	.5	1.6	5.7	11
look	62	68	75	81
run	25	42	46	53
put	20	16	26	35
pour	1.3	3	7	10.5
find	16	27	24	41
like	5.5	8.5	9	20
think	7.5	11	13.5	24
count	9	4.5	13.5	14
let	2.1	2.8	9.5	6
say	50	42	55	58
peel	.8	1.8	4.5	7.5
stay	1	3.5	5.7	7.5
beg	.27	.45		2
walk	.27	1		2
Total	616.24	675.15	989.4	1104.0

TABLE XIII

Percentages, by Age Groups, of all Verbs which are used significantly more by Hearing Children

Age Groups	- Difference			
	Hearing		Deaf	
	8 - 11	12 - 14	11 - 14	15 - 17
feel	43	48	15	32
be	99	100	92	97
have	56	58	49	37
happen	.5	2		
seem	.27	2		
start	6	13		.6
finish	31	47	10	5.5
repeat	1.3	2		
lean	22	36	10.7	20
ache	.5	2		
decide	1.8	6		2.5
guess	.27	2.3	29	45
ask	65	74		
come	89	89	58	64
go	96	92	88	95
return	.8	4		.6
sneak	.8	2.5		
appear	1.6	4.		
peek	1.8	1.6		
rap	29	33	3	1.2
bring	29	27	5.7	9.5
take	85	93	64	74
rub	4.2	13	1.4	1.2
tap	3.7	9.5	1.4	1.2
reach	1.3	1.6		.6
shake	4.2	4.3	.7	1.2
grab	1	1.4		
Total	674.04	774.2	427.9	488.1

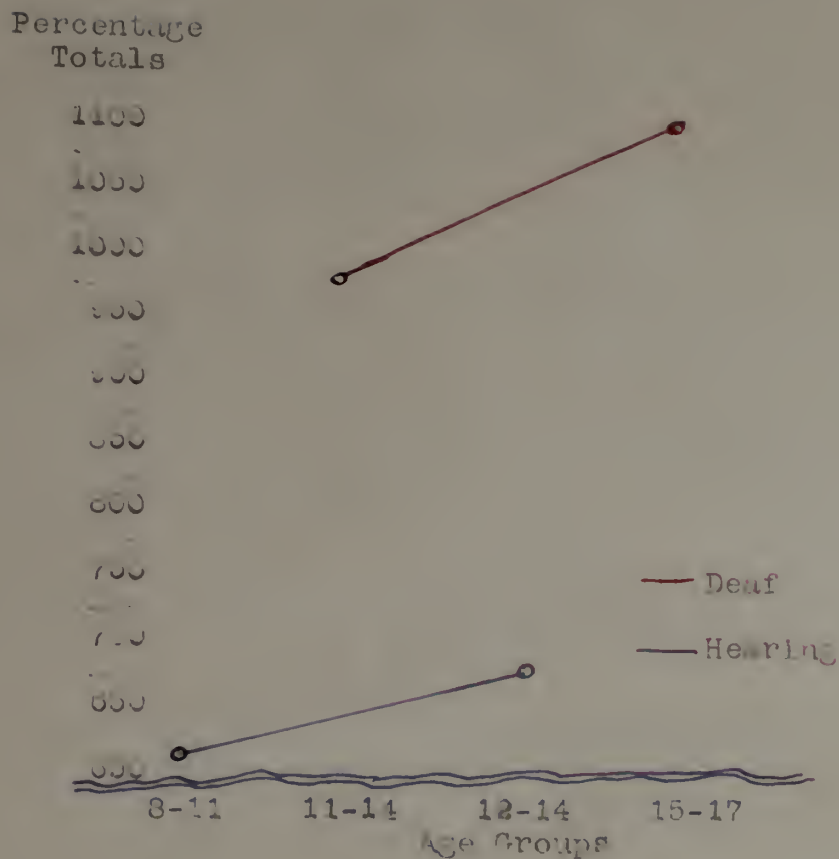


Figure 6

Percentage Totals, by Age Groups, of All Verbs Which
Are Used Significantly More by Deaf Children

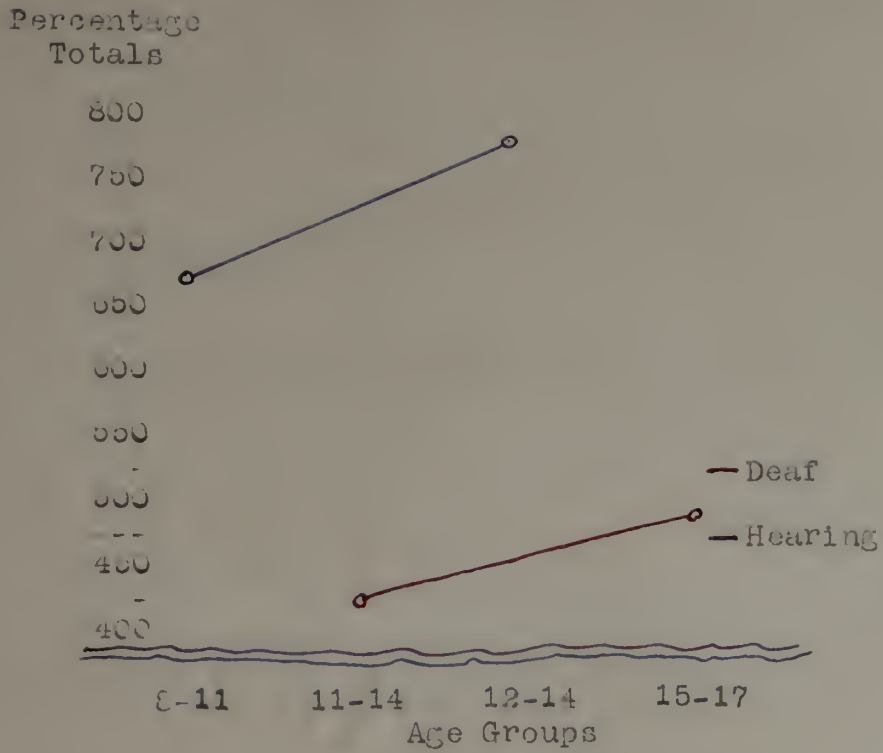


Figure 7

Percentage Totals, by Age Groups, of All Verbs Which
Are Used Significantly More by Hearing Children

percentage of deaf children increases at a much more rapid rate than the percentage of hearing children, as they grow older, in the use of these verbs which were used significantly more by the deaf children. In the case of verbs which were used significantly more by the hearing children, the percentage of deaf children increases at a much slower rate, as they grow older, than the percentage of hearing children in the use of these verbs. We can express these results also in this way: the verbs which were used more by hearing children when we compare the two younger age groups, are still more used by hearing children when we compare the two older age groups. These results are also shown in Figures 6 and 7 which were made from Tables XII and XIII, respectively.

From Tables XIV and XV it can be seen that the deaf children do not become as much unlike the hearing children, as they grow older, in the use of nouns as they did in the use of verbs. The percentage of deaf children increases at about the same rate as the hearing children, as they grow older, in the usage of verbs, no matter if the nouns were used significantly more by the deaf or the hearing children. These results are also shown in Figures 8 and 9 which were made from Tables XIV and XV, respectively.

In Table XVI are recorded the differences of the totals of the percentages between younger deaf and younger hearing children and between older deaf and older hearing children using verbs and nouns which are used significantly more by

either deaf or hearing children. Then the increases from younger to older groups are shown which were obtained by subtracting the younger children differences from the older children differences. For instance, in the case of the verbs which were used significantly more by the deaf children, there was a difference of 373 between the two younger groups which was in favor of the deaf children; in the older groups there was a difference of 429 in favor of the deaf children, thus, older minus younger (429-373) shows an increase of fifty-six. There is a decided increase in each case, from younger children to older children in the use of these words which show significant differences.

TABLE XIV

Percentages, by Age Groups, of all Nouns which are used Significantly more by Deaf Children

Age Groups	Hearing		Deaf	
	8-11	12-14	11-14	15-17
afternoon	.5	1	1.4	8
years	.5	4	5.7	8.5
day	10	14	31	32
woman	6	7.5	20	11
son	.5	1.3	5.7	7
noise			2	3
matter	7	11	34	26
name	3	3	10	8.5
tablespoon	3	3.5	5.7	20
basket	.5	2.3	3	10
skins	21	19	19	30
mouth	.27		10	20
medicine	32	28	79	58
window	87	92	92	97
porch	47	59	59	70
door	7.5	7	24	12
pole	9	9	9	21
room	2.1	2.8	14	25
floor		.45	15.5	30
sill	3	3.5	11.5	18
ground	16	18	48	48
grass			1.4	5
Total	255.87	286.35	500.9	568

TABLE XV

Percentages, by Age Groups, of all Nouns which are used significantly more by Hearing Children

Age Groups	Hearing		Deaf	
	8-11	12-14	11-14	15-17
stomach	19	32	12	19
head	17	22	10	14
forehead	6	7	2	1.6
feet	.8	2.8		
tummy	3.7	4		.6
castor-oil	52	57	10	35
post	18	37	7	6
stairs	2.1	2		.6
dose	3.7	7		.6
lady	20	15	.7	1.6
child	.5	2		
peels	22	30	15	19
Total	164.8	217.8	56.7	98.

Percentage Totals

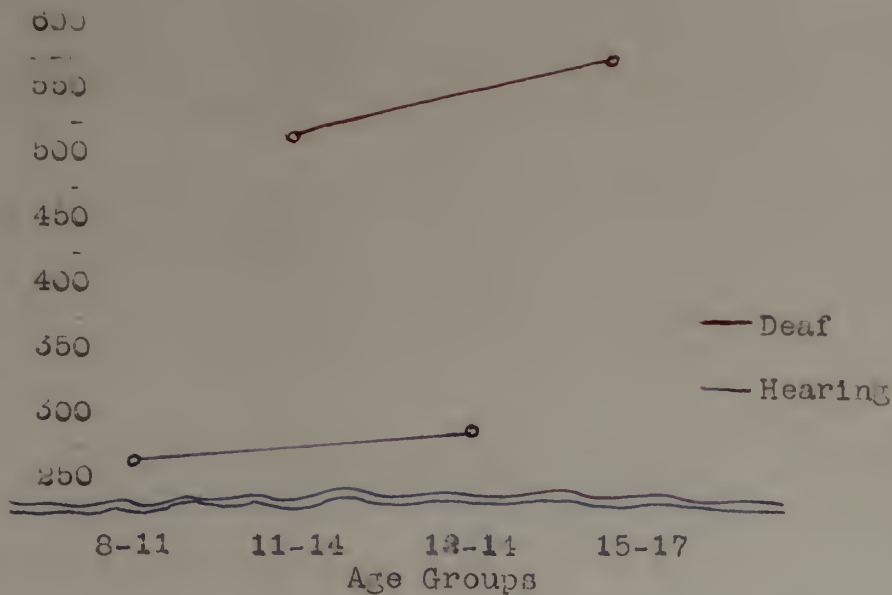


Figure 8

Percentage Totals, by Age Groups, of All Nouns Which Are Used Significantly More by Deaf Children

Percentage Totals

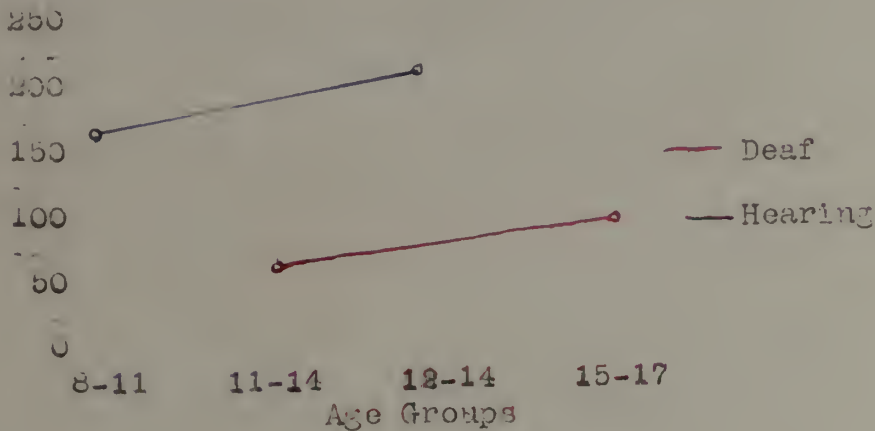


Figure 9

Percentage Totals, by Age Groups, of All Nouns Which Are Used Significantly More by Hearing Children

TABLE XVI

The Totals of the Percentage Differences between Deaf and Hearing for Younger and Older Age Groups and the Increase in these Differences with Age

	$D_y - H_y$	$D_o - H_o$	$[(D_o - H_o) - (D_y - H_y)]$
Verbs used more by Deaf Children	+ 373	+429	+ 56
Verbs used more by Hearing Children	-246	-286	-40
Nouns used more by Deaf Children	+ 245	+281	+ 36
Nouns used more by Hearing Children	-108	-120	-12

The same results, namely, that the deaf children become more unlike the hearing children, as they grow older, in the use of verbs, but that in the use of nouns they are very much like the hearing children, can also be observed in a different way. In Table XVII (verbs) and Table XVIII (nouns) the sum of the absolute differences of verb and noun percentages between deaf and hearing children for each category and younger and older children were recorded. D-H means the percentage of deaf children using a word minus the percentage of hearing children using the same word; for example, 58 percent of the 140 deaf children in the younger deaf group used the verb "to come" and 89 percent of the 380 hearing children in the younger hearing group used the same verb, making an absolute difference of thirty-one in favor of the younger hearing group. An absolute difference in favor of the hearing children was designated by the minus (-) symbol and an absolute difference in favor of the deaf children was designated by the plus (+) symbol. Then the sum of the absolute differences, regardless as to whether they were in favor of deaf or hearing children, of all the verbs in the same category with "to come" for the younger children was obtained. This sum of the absolute differences, 71.61; of the verbs in the category "Bodily Movement" was recorded in Table XVII. The sums of absolute differences of verb and noun percentages between deaf and hearing children for each category and younger and older children were obtained in the same way.

The difference between the sums of absolute differences

of verb and noun percentages of the younger and older age groups in each category were also shown in Tables XVII and XVIII, respectively. The formula used to express this difference was: $\left[\left(\frac{D_o}{o} - \frac{H_o}{o} \right) - \left(\frac{D_y}{y} - \frac{H_y}{y} \right) \right]$. This means that the sum of the absolute difference of the younger children of a category was subtracted from the sum of the absolute difference of the older children of the same category. For example, from the category "Bodily Movement" the sum of the absolute difference of the younger children, 71.61, was subtracted from the sum of the absolute difference of the older children, 81.05, which shows a difference of 9.44. The plus (+) symbol designated a difference in favor of the older children and the minus (-) symbol designated a difference in favor of the younger children.

An increase in the percentage from younger to older group in any category implies that the deaf and hearing children, as they grow older, become more unlike in the usage of the words of that category. When the percentage decreases from younger to older group in any category that means that the deaf and hearing children, as they grow older, become more alike in the use of the words of that category. In the majority of the categories it seems that the deaf and hearing children, as they grow older, become more unlike in the use of verbs and nouns. There are only two verb categories, Moral and Social Acts (non-verbal), in which the deaf children become more like the hearing children, as they grow older, in the use of those words. The fact that the deaf children become more

like the hearing children in the use of the verbs in the category "Moral" as they grow older, is due to the verb "steal" which is more widely used by the younger deaf children and which has a very high "difference" reliability in favor of the deaf children. This may be explained by the fact that it is all right for a hearing child, who lives at home, to take a banana if he wants one without asking, but the deaf child, who lives in a residential school, must have permission before he can have a banana even if he does see it in a bowl on the window sill. A banana obtained in this way would be called "stealing" by a deaf child and simply "taking" by the hearing child. There are only five noun categories, Remedies, Movie, School, Individuals, and Nouns as Parts of Standard Phrases, in which the deaf children become more like the hearing children, as they grow older, in the usage of nouns, but the differences in favor of the older groups here are not very large. Thus, we have observed in another way that the deaf children become more unlike the hearing children, as they grow older, in the use of verbs, but that they become a little more like the hearing children, in the use of nouns.

TABLE XVII

Sum of Absolute Differences of Verb Percentages between Deaf and Hearing Children for each Category and Younger and Older Children

	Hearing Deaf	D-H 8-11 11-14	D-H 12-14 15-17	$[(D_o - H_o) - (D_y - H_y)]$
Bodily Movement		71.61	81.05	+ 9.44
Posture		31.9	40.76	+ 8.86
Eat Drink		14.93	19.49	+ 4.56
Perception		48.47	69.29	+ 20.82
Intellect		28.67	40.97	+ 12.30
Emotional		69.73	84.18	+ 14.45
General		41.47	87.80	+ 46.33
Time Relations		29.90	73.49	+ 43.59
General Activity		3.6	7.06	+ 3.46
Sickness		2.30	11.30	+ 9.00
Manual Activity		184.01	249.47	+ 65.46
Moral		50.24	32.46	-17.78
Miscellaneous		1.37	8.48	+ 7.11
Social Acts (Non-Verbal)		22.90	21.44	-1.46
Social Acts (Verbal)		59.21	103.65	+ 44.44
Expression		2.27	6.81	
		<hr/>	<hr/>	
		662.58	937.70	

TABLE XVIII

Sum of Absolute Differences of Noun Percentages between Deaf and Hearing Children for each Category and Younger and Older Children

	Hearing Deaf	D-H 8-11 11-14	D-H 12-14 15-17	$(D_o - H_o) - (D_y - H_y)$
Sickness		10.80	11.91	+ 1.11
Remedies		95.47	59.33	-36.14
Anatomy		38.97	69.51	+ 30.54
Toys		9.60	20.75	+ 11.15
Utensils		18.71	44.50	+ 25.79
Fruit		14.2	31.82	+ 17.62
Meals		.34	2.63	+ 2.29
Environment		38.51	42.73	+ 4.22
Movie		14.0	5.8	-8.2
School		4.04	2.46	-1.58
Time		38.40	39.58	+ 1.18
Individuals		48.40	37.93	-10.47
House or Parts		106.12	165.39	+ 59.27
Amount		8.8	9.4	+ .6
Miscellaneous		2.27	10.26	+ 7.99
Nouns as Parts of Standard Phrases		39.	30.10	-8.9
Abstract		.54	2.13	+ 1.59
		<hr/> 457.17	<hr/> 586.23	

V GENERAL SUMMARY AND CONCLUSIONS

1. Summary of the findings

The significant findings of this study may be stated as follows:

(a) There are differences between deaf and hearing children in the verbs and nouns they use to describe a short motion picture story.

(b) The number of different verbs used is less for deaf children than for hearing children of the same age and this difference increases with age.

(c) The number of different nouns used is about the same for deaf and hearing children and remains so throughout the seven age levels.

(d) Deaf children are more like each other in the use of verbs and nouns than hearing children, that is, with deaf children a greater percentage of verbs and nouns falls in classes with high frequency.

(e) The number of nouns which showed reliable differences in favor of the deaf are about two times the number of nouns with reliable differences in favor of the hearing children.

(f) About the same number of verbs showed reliable differences in favor of the deaf children as the number of verbs which showed reliable differences in favor of the hearing children.

(g) Approximately 50 percent of the number of verbs and nouns whose frequency was so great that a significant difference could have appeared showed significant differences.

(h) The verbs and nouns which are used significantly more by the deaf children are more widely occurring than the verbs and nouns which are used significantly more by the hearing children.

(i) The vocabulary of deaf children becomes more unlike that of the hearing children as they grow older.

2. Conclusions

The purpose of this investigation was to determine the retardation of deaf children and some qualitative differences between deaf and hearing children in the use of verbs and nouns when they are writing about the same limited subject, namely, a short motion picture story. Allowance was made for the educational achievement of the deaf children in order to have two groups of children which were nearly equal in educational achievement.

The conclusions reported are based upon the findings in the compositions. Any inferences or generalizations are obviously limited by the fact that they concern only verbs and nouns and only a limited material, and not the general writing vocabularies of deaf and hearing children, although, as pointed out before, this study can be looked upon as a starting point for the comparison of their general writing vocabularies.

The deaf child is progressing but in a different direction. His vocabulary is developing but not along the same line as that of the hearing child. That implies a difference in the development of his vocabulary which is more than a mere retardation. If one reads a number of compositions written by

deaf and hearing children one gets the impression: (1) that the style of the deaf children's compositions are clumsy, and (2) that their descriptions are written in more concrete terms than those of the hearing children.

The deaf child's vocabulary is developed in a way that enables him to present a fairly good outline-description of an event but it does not enable him to give an understanding or interpretation of the event as the hearing child is able to do. He carefully tries to describe each step or happening of the story. On the other hand the general terms that he uses are pale and lack the finer shades of meaning when portraying an event. His writing is not of the invigorating style. Thus, there is a difference in the style of writing of the deaf and the hearing child.

The results of this study show some of the factors which are responsible for these differences. The deaf child's descriptions contain more of the most frequently used words and that makes the style of the compositions clumsy. He has the words which enable him to describe only the basic facts. Many nouns are used to name all the things of the environment. Everything that is seen, regardless of its importance in an event, receives equal attention and effort when being described.

The comparison of the age trends in deaf and hearing children showed that the above differences increase with age. The verbs and nouns which were used more by hearing children when the two younger age groups are compared are still more used by hearing children when the two older age groups are

compared. Also, the verbs and nouns which were used more by deaf children when the two younger age groups are compared, are still more used by the deaf children when the two older age groups are compared. This also holds true when the age groups are compared in regard to the use of the different categories.

Formal education strives to make the deaf child more similar to the hearing child, mentally and educationally, as he grows older. Its aim is to close the educational gap between deaf and hearing children. Therefore the aforementioned differences are not desirable. To fully explain these differences, which may be due to the deaf child's education or because he lives in an optical environment, further investigation will be necessary.

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses, income, and any other financial activity.

The second part of the document provides a detailed breakdown of the accounting process. It starts with the identification of the accounting cycle, which consists of eight steps: identifying the accounting cycle, analyzing and journalizing the transactions, posting to the ledger, preparing a trial balance, adjusting the accounts, preparing financial statements, and closing the books. Each step is explained in detail, with examples and practical advice.

The third part of the document focuses on the preparation of financial statements. It covers the balance sheet, the income statement, and the statement of owner's equity. It explains how these statements are derived from the accounting records and how they provide a comprehensive view of the company's financial health.

The fourth part of the document discusses the importance of internal controls. It explains how internal controls help to prevent errors and fraud, and how they ensure the accuracy and reliability of the financial information. It provides examples of internal controls and discusses how they should be implemented.

The fifth part of the document covers the topic of depreciation. It explains how depreciation is calculated and how it is recorded in the accounting records. It also discusses the different methods of depreciation and how they affect the financial statements.

The sixth part of the document discusses the importance of reconciling the accounting records with the bank statements. It explains how to identify and correct discrepancies and how to ensure that the accounting records are accurate and up-to-date.

The seventh part of the document covers the topic of closing the books. It explains how to close the temporary accounts and how to prepare the final financial statements for the period. It also discusses the importance of reviewing the financial statements and making any necessary adjustments.

The eighth part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses, income, and any other financial activity.