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The persistence of word perception errors in the Scott, Foresman Second Reader, Friends and Neighbors.

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Thesis

THE PERSISTENCE OF WORD PERCEPTION ERRORS IN THE
SCOTT, FORESMAN SECOND READER, FRIENDS AND NEIGHBORS

Submitted by

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(B.S. Ed., Boston University, 1949)

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degree of Master of Education

1952

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INTRODUCTION

INTRODUCTION

This study is part of a larger study conducted under the co-authorship of Damian, Duran, Noonan & Robertson. The purpose of the complete study was to determine what words introduced in the Scott, Foresman Basic Readers from the Pre-Primers through the Second Reader were the most difficult to learn and what errors persisted. This part of the experiment is confined to the Second Reader, Friends and Neighbors. The above mentioned co-authors have devoted their part of the study to the Pre-Primers through the First Reader.

CHAPTER I
PLAN OF THE STUDY

CHAPTER I

PLAN OF THE STUDY

This study is an attempt to discover, through a tabulation and analysis of word perception errors in reading, what words cause most difficulty to second grade children and what errors persist.

The following details were considered in planning the study:

1. Population
2. Preparation of the material
3. The testing program

Population

One hundred fifty-one boys and girls from eight second grades of a small industrial town in Vermont and its surrounding rural areas were the subjects of this study. Only the average and superior reading groups were used. The slow groups were omitted since they would not have completed the second reader in time to have been included in this study.

Eight teachers of Grade 2 cooperated in the experiment. Permission was secured from the Superintendent to carry on this study.

Each classroom teacher administered the California Mental Maturity Test to her own pupils preceding the study.

Table 1 gives the mean chronological and mental ages of the children in months.

Table 1

MEAN CHRONOLOGICAL AND MENTAL AGES OF 151 SECOND GRADE CHILDREN MEASURED BY THE CALIFORNIA MENTAL MATURITY TEST

Mean C. A.	88.84	S. D.	4.08
Mean M. A.	101.60	S. D.	13.00

The chronological ages ranged from 79 to 105 months with a mean chronological age of 88.84. The mental ages ranged from 70 to 134 months with a mean mental age of 101.60. The findings indicate that this group is mentally superior.

Preparation of Material

A battery of oral inventory stories based on the vocabulary of the Scott, Foresman Second Reader, Friends and Neighbors was composed. The battery includes six stories, one for each unit of Friends and Neighbors, and a retest story made up of all the new words introduced in the entire book. The number of new words tested for each story are listed as follows:

<u>Unit No.</u>	<u>Test No.</u>	<u>No. of Words Tested</u>
Unit 1	Test 1	49
" 2	" 2	51
" 3	" 3	63
" 4	" 4	50
" 5	" 5	23
Unit 1 - 5	Retest	<u>236</u>

In writing the stories, an attempt was made to eliminate unnecessary words. All extra words are either repetitions of the new words or words on a lower level. Verbs were kept in the same form as given in the vocabulary list for each unit.

The Testing Program

The classroom teacher administered each test individually at the completion of the teaching of each unit. There were two copies of each test, one for the teacher and one for the child. Recording of the errors was made by the teacher on her own copy by writing the error above the word. The words to be tested were underlined on the teacher's copy. The retest, which was made up of the entire vocabulary of Friends and Neighbors, was given individually at the very end of the experiment. The following code was used for recording the errors:

1. Do not write anything above the word if the child pronounces it correctly.
2. If child hesitates for five seconds pronounce the word for him and write "p" above the word.

3. Draw a circle around omitted words or parts of words.

4. If child substitutes one word for another, write the substitution above the word. For example: cat for kitten.

5. If child mispronounces a word write the mispronunciation above the word. For example: drin for drawn.

6. If child adds sound at the beginning, middle or end of a word, write the error above the word.

The 49 words for Unit 1 are:

across	John
Ann	jolly
around	letter
balloons	line
bell	money
both	more
buildings	neighbors
Buzz	park
by	pay
call	Pleasant
candy	pull
city	Saturday
clothes	sister
didn't	stay
drops	telephone
eyes	tell
full	ten
game	than
got	tie
hand	ting-a-ling
handkerchief	today
heard	train
I'll	Uncle
Joe	use
	would

TEST FOR UNIT 1

One Saturday Joe was playing a game with his sister Ann. They were in the park on Pleasant Street. All at once they heard a bell go ting-a-ling. Both children ran across the street.

Mother said, "Uncle John called on the telephone. He wants us to come to the city today. We will go by train and stay all day."

"We will have a jolly time," said Ann. "We will see big buildings. I'll use my ten pennies to pay for balloons and candy."

"I have more money than that," said Joe. He put his hand in his pocket and began to pull out a handkerchief full of pennies. His eyes got big and round.

"Ann," Mother said, "I see big drops of rain coming down. I didn't take the clothes from the line. Please do it for me."

"Joe, please call Buzz. He is running around in the park. I would tie him up. Then go tell the neighbors where we are going. I'll put a letter on the table for Father so that he will know where we are."

The 51 words for Unit 2 are:

about	hat	visit
because	high	water
Bee	hole	won't
before	honk	
Calf	hungry	
catch	if	
caw	kinds	
circus	long	
coat	lot	
couldn't	mouse	
crow	noise	
Elephant	off	
enough	own	
fence	roll	
fish	short	
flew	shout	
fool	show	
forget	side	
front	sign	
gave	sniff	
goat	stand	
gone	strings	
grass	their	
Halloween	tricks	

TEST FOR UNIT 2

Bee was on her way to visit her animal friends. She had on the little hat with the red strings. She had on the short coat that Father gave her. She looked up. There was a crow high in a tree. "Caw, caw!" he said. And off he flew. In front of Bee was a long fence. On the other side was hungry Mr. Calf and the goat. They were eating their dinner of grass.

Next she met Mr. Elephant. I'll show you the kinds of tricks I do in the circus. I stand on my head. See? I roll over like this." Bee laughed.

Then she saw a little mouse. "You can't catch me," he said. And before Bee could say anything, he had gone down a hole.

Next she saw a fish in some water. "Oh, little fish," she said, "Don't go away." "I won't," said the fish. All at once her own little dog ran up to her and began to sniff at her.

Soon she came to a sign. But she couldn't read it because she was not old enough. "I would know what it is about if I could read," she thought. Just then she heard a lot of noise. A car went honk, honk. She heard a boy shout. It was Billy. "Don't forget. This is Halloween night. I am going to fool my friends," he said.

The 63 words for Unit 3 are:

bake	grows	soft
Bear	herself	start
best	hide	sting
better	honey	sun
biggest	knew	through
blew	large	tired
Bobby	late	tomorrow
breakfast	leaves	tried
cabbage	minute	until
cakes	never	wait
clean	nose	wake
climb	o'clock	wiggles
cock-a-doodle-doo	parade	winter
cut	pick	wonderful
dig	pie	woods
drum	place	
each	rake	
early	ready	
ever	right	
far	seen	
field	sit	
garden	six	
Goose	small	
Ground-hog	smell	

TEST FOR UNIT 3

"Cock-a-doodle-doo! Please wake up!" called Little Rooster. Mrs. Goose opened her eyes. "My! My!" she said to herself. "It is six o'clock. I must hurry and eat breakfast. Then I must start to work. I will bake my pies and honey cakes and clean my store." Soon everything was ready. "I am tired," she said. "I'll sit down and wait until Mrs. Bear comes. She will be here any minute. She looked through the open door. "The sun likes to hide behind the woods," she thought. The wind blew the leaves far out across the cabbage field. "Oh, dear!" said Mrs. Goose. Soon winter will be here. I must dig the things in the garden and rake the leaves.

Soon Mrs. Bear, Little Bear, and Bobby Squirrel came one behind the other. "Just like a parade," laughed Mrs. Goose, "but without a drum. I knew they would come early."

"Do come in," said Mrs. Goose. "My! how fast Little Bear grows."

"I smell something good," said Little Bear, as he went to the place where the pies and cakes were.

"See how his soft little nose wiggles," said Mrs. Goose. He has a sting on the end of it," said Mother Bear. "Don't climb up there, dear!"

"Have you ever seen anything so wonderful?" said Bobby Squirrel as he looked at each pie and cake. "No, I

never have," said Mother Bear.

"I tried to make them just right," said Mrs. Goose.

"Which pie will you pick, Little Bear?" asked his Mother.

"The biggest pie is the best one for me."

"No, no," said Mother Bear. "The small one is better for you. Let Bobby have the large one."

"I'll cut the cake in two because Mr. Groundhog wants some of it. He will come for it late tomorrow," said Mrs. Goose.

The 50 words for Unit 4 are:

afraid	near
always	nice
answered	people
beautiful	pile
bigger	plant
blow	potatoes
bricks	Potato
brought	scare
build	second
burn	seeds
care	shook
Christmas	shovel
cold	slow
deep	sorry
fall	spring
fire	stick
himself	those
hurried	told
I'm	top
Johnny	try
keep	turn
lights	watch
Miss	window
move	wouldn't
much	Zeke

TEST FOR UNIT 4

It was a beautiful spring day. Zeke was working in Miss Brown's garden. "I have just six more nice potatoes to plant," he said to himself.

Just then Johnny came along. "May I help you?" he asked.

"Yes," answered Zeke with a slow smile, as he let the shovel fall to the ground. "I always like to have help. You may give me the potatoes and I will plant them.

"I'm the Potato Man," Johnny would say as he gave Zeke the potatoes. "This is fun. I'm sorry I didn't come early."

"We must put the potatoes deep in the ground," said Zeke. "I must make this hole much bigger. There! Now Miss Brown will have enough potatoes until Christmas. Many people hurried by, but when they saw Zeke and Johnny working they would turn to watch them.

"Give me those seeds over there on that pile of bricks. We will plant them next. "How will we take care of the seeds so that the birds won't dig them out of the ground?"

"I know," said Johnny. "I brought this old handkerchief. I will tie it near the top of a stick. Now I'll put the stick in the ground.

"Good boy," said Zeke.

Just then a cold wind began to blow. It shook the handkerchief. "That will keep the birds away. They will

be afraid when they see the handkerchief move. That will scare the birds. I'll put a second stick here."

"I wouldn't put it there," said Zeke. "Let's try it here."

Just then Miss Brown came to the open window. "I told Zeke to come tomorrow," she said. "You may come too, Johnny. Tomorrow you may build a fire and burn that pile of old leaves.

"It is getting dark," said Zeke. "Soon the lights will go on. We must go home.

The 23 words for Unit 5 are:

boil

Brother

chimney

chinny-chin-chin

churn

country

cried

cry

earth

floor

fox

hair

hot

huff

lion

porridge

pot

quick

silly

straw

third

together

wolf

TEST FOR UNIT 5

Three little rabbits lived together in the country. One day the third little rabbit said, "I am going to go all around the earth." So he set out. He hopped so fast that he began to huff and puff. Soon he got hungry and he began to cry. His little chinny-chin-chin went up and down. At last he met a boy with hair the color of straw.

"Why do you cry, Brother Rabbit?" asked the boy.

"I'm hungry," said the silly little rabbit.

"I will boil a pot of hot porridge for you," said the boy. "Come in."

Just then they saw the wolf, the fox, and the lion coming along. "Oh, Brother Rabbit," cried the boy. "You must hide."

As quick as could be the little rabbit hopped into the churn that was on the floor by the chimney.

"Now they won't find you," said the boy.

RETEST

One day jolly Uncle John came to visit Johnny, Joe and their sister Ann. He brought both boys some balloons, a letter game, and a toy train with lights that would turn off and on. He gave Ann some candy, a toy telephone with a line and a bell that went ting-a-ling, and a nice doll for her very own to care for. The doll had beautiful hair and large eyes and could cry. "It is the biggest and best doll I have ever seen," cried Ann. "I'm going to call her Bee." The children never knew where Uncle John got all the money to pay for those toys.

They had a lot of fun in the city park on Pleasant Street. They blew up their ten balloons and tied strings around each one. Ann tried to blow one up too. "Why does my balloon stay so small?" she asked. "I huff and puff but it won't get big enough. Your balloon always grows bigger when you blow it. The boys tried to show her how but she couldn't do it right.

The children liked to work. One day they saw Zeke in Miss Brown's garden. He had a shovel in his hand. "We want to help you plant potatoes," they told him. "Johnny can be the Potato Man," said Zeke. "When I use my shovel to dig a deep hole far down in the earth, Johnny drops the potato in it. Next they planted cabbage and all kinds of seeds. Now

I'll tell you how to keep the birds from eating the seeds. Please pick up that long stick and put the top of it in the ground. Now tie my handkerchief to the stick. That will scare the birds away. You had better sit on that pile of bricks and wait. Don't move or make any more noise than a mouse - just watch." In a minute a crow flew down near the place where the seeds were planted. When it saw how the handkerchief shook, it was afraid. As quick as could be, it flew away with a 'caw! caw!' The children helped Zeke rake leaves and clean the yard. "Now we will build a fire and burn them," he said.

On Saturday the children were going to the country. Mother said, "I'll try to wake you up early tomorrow. You wouldn't want to be slow and get a late start." At six o'clock the next morning, she was up to bake some pie and cakes. "The smell of that pie makes me hungry," she said to herself as she cut it. Then she hurried to boil a pot full of porridge for breakfast.

They were ready to go before the neighbors were up. "Don't forget to put on your hat and short coat, Ann. It's a wonderful spring day and the sun is out but it's cold. They went along until they came to a sign on a high fence that said, 'Hill Farm.' They saw Bobby through the Second floor front window and heard him shout. Then Buzz ran across the yard to sniff at them and pull at their clothes.

Bobby took them out to see the animals and the farm buildings. Mr. Rooster went "cock-a-doodle-doo!" Mrs. Goose went "honk! honk!" Brother Calf and the goat were eating grass and straw in the field. "The goat looks silly when he wiggles his chinny-chin-chin up and down," said Ann.

The children sat down together to read stories about the lion and the fox and other animals that talked like people. How the third little pig got in a churn to fool the wolf. How he put a pan of hot water by the chimney so that the wolf would fall in it. How Mr. Groundhog sleeps all winter and how Mr. Bear could catch fish and climb trees to get honey for himself. They were sorry when he got a sting on the end of his soft nose. They liked the story about Mr. Elephant who had gone to hide in the woods because he was tired of the circus parade and didn't want to hear the drum. How he could do tricks like roll over on his side and stand on his head.

That night Mother asked the children if they had had fun. "We had as much fun today as we do on Halloween and Christmas," they answered.

CHAPTER II
ANALYSIS OF DATA

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ANALYSIS OF DATA

A battery of oral inventory stories based on the vocabulary of the Scott, Foresman Second Reader, Friends and Neighbors was composed. The battery includes six stories, one for each unit of the reader and a retest story made up of the entire vocabulary of 236 words introduced in the book.

These tests were given individually to one hundred fifty-one second grade children in the average and superior reading groups and the errors recorded.

The data were analyzed to find:

1. The persistency of error by tabulating the errors in the first testing and the retest and comparing their totals. Comparisons of the following errors were made:
 - a. Total errors
 - b. Non-recognition errors
 - c. Substitution errors
 - d. Errors of addition
 - e. Errors of omission
2. The fifty hardest words in the retest based on non-recognition and substitution errors.
3. The number and types of substitution errors made on the fifty hardest words.
4. The fifty easiest words in the retest.

Table 2 shows the comparison of the first testing with the retest of the number of total errors made by the entire population.

Table 2

TOTAL ERRORS ON THE FIRST TESTING COMPARED WITH TOTAL ERRORS ON THE RETEST

Test No.	No. of Words Tested	Total Errors on First Testing	Total Errors on Retest
1	49	673	379
2	51	595	359
3	63	712	475
4	50	490	381
5	23	154	189
Total	236	2624	1783

The total errors consist of errors of non-recognition, substitution, addition and omission. In the first testing, 151 children made 2624 errors on 236 words. In the retest, these children made 1783 errors or a reduction of one-third.

Table 3 shows the comparison of the first testing with the retest of the total number of errors of non-recognition.

Table 3

TOTAL NON-RECOGNITION ERRORS ON THE FIRST TESTING COMPARED WITH TOTAL NON-RECOGNITION ERRORS ON THE RETEST

Test No.	No. of Words Tested	Total Errors of Non-recognition	
		First Testing	Retest
1	49	308	164
2	51	366	168
3	63	347	194
4	50	218	178
5	23	90	74
Total	236	1329	778

Each child was tested individually. If the child did not say the word by the end of 5 seconds, the teacher pronounced it for him and the word was classified as an error of non-recognition.

In the first testing, 151 children made 1329 errors. In the retest, these children made 778 errors or a reduction of less than one-half.

Table 4 shows the comparison of the first testing with the retest of the total number of substitution errors.

Table 4

TOTAL SUBSTITUTION ERRORS ON THE FIRST TESTING COMPARED WITH TOTAL SUBSTITUTION ERRORS ON THE RETEST

Test No.	No. of Words Tested	Total Errors of Substitution	
		First Testing	Retest
1	49	334	199
2	51	179	148
3	63	241	216
4	50	235	185
5	23	60	96
Total	236	1049	844

In the first testing, 151 children made 1049 errors. In the retest, these children made 844 errors or a reduction of one-fifth.

Table 5 shows the comparison of the first testing with the retest of the total number of errors of addition.

Table 5

TOTAL ADDITION ERRORS ON THE FIRST TESTING COMPARED WITH
TOTAL ADDITION ERRORS ON THE RETEST

Test No.	No. of Words Tested	Total Errors of Addition	
		First Testing	Retest
1	49	13	5
2	51	20	38
3	63	103	56
4	50	11	2
5	23	3	16
Total	236	150	117

Addition errors included such errors as adding s, ed, or ing at the end of a word or adding a word at the beginning.

In the first testing, 151 children made 150 errors. In the retest, these children made 117 errors or a reduction of one-fifth.

Table 6 shows the comparison of the first testing with the retest of the total number of errors of omission.

Table 6

TOTAL OMISSION ERRORS ON THE FIRST TESTING COMPARED WITH
TOTAL OMISSION ERRORS ON THE RETEST

Test No.	No. of Words Tested	Total Errors of Omission	
		First Testing	Retest
1	49	18	11
2	51	30	5
3	63	21	9
4	50	26	16
5	23	1	3
Total	236	96	44

Omission errors included such errors as omitting the whole or part of a word. 96 errors were made in the first testing as compared to 44 errors in the retest. There was a reduction of one-half on the retest.

Table 7 gives a list of the 50 hardest words taken from the retest data. These words had the greatest number of errors from the standpoint of non-recognition and substitution.

Table 7

TOTAL ERRORS OF THE 50 HARDEST WORDS BASED ON NON-RECOGNITION AND SUBSTITUTION ERRORS IN THE RETEST

Word	Total Errors	Non-recognition Errors	Substitution Errors
balloons	13	9	4
bell	12	1	11
boil	20	15	5
both	18	16	2
build	19	9	10
Buzz	11	6	5
care	25	13	12
churn	11	4	7
clean	15	12	3
couldn't	13	1	12
country	12	3	9
drops	21	9	12
earth	20	13	7
enough	16	14	2
fool	17	3	14

Table 7 (Cont.)

Word	Total Errors	Non-recognition errors	Substitution Errors
grows	18	11	7
heard	15	8	7
high	15	10	5
hurried	11	9	2
John	24	1	23
knew	11	5	6
large	21	8	13
line	12	8	4
Miss	45	0	45
neighbors	11	6	5
pile	17	9	8
place	15	1	14
pull	20	5	15
scare	15	11	4
second	13	8	5
shook	14	6	8
slow	23	14	9
smell	22	18	4
sniff	24	13	11
soft	11	1	10
start	14	12	2

Table 7 (Cont.)

Word	Total Errors	Non-recognition Errors	Substitution Errors
sting	15	10	5
straw	13	8	5
their	23	16	7
third	31	6	25
those	15	4	11
through	23	18	5
tie	12	2	10
tired	11	5	6
wait	16	8	8
wiggles	16	5	11
wonderful	15	5	10
won't	25	1	24
would	18	3	15
wouldn't	45	2	43
Total	892	385	507

The words "smell" and "through" were the two hardest words from the standpoint of non-recognition with 18 errors each.

Table 8 gives an alphabetical list of the 50 hardest words taken from the retest data. The number and types of substitution errors on these words are shown.

Table 8
NUMBER AND TYPES OF SUBSTITUTION ERRORS OF THE 50 HARDEST WORDS IN THE RETEST

Word	Substitution	Number
balloons	balls	4
bell	ball	10
	ring	1
boil	bo	1
	bake	1
	build	1
	bowl	1
	get	1
both	about	1
	busy	1
build	burn	6
	brick	1
	pile	3
Buzz	Bizz	1
	z	1
	z-z	1
	Bzz	1
	Bees	1
care	keep	1
	car	1
	cried	2
	cry	3
	carry	5
churn	turn	3
	chimney	1
	charn	1
	chin	1
	church	1

Table 8 (Cont.)

Word	Substitution	Number
clean	keep	2
	clear	1
couldn't	wouldn't	9
	children	1
	didn't	2
country	circus	1
	city	8
drops	digs	5
	drips	2
	does	1
	stops	1
	picks	1
	draws	1
	buys	1
earth	garden	1
	early	1
	each	1
	ground	4
enough	even	1
	each	1
fool	fall	1
	scare	1
	hide	1
	feed	3
	fightin'	1
	fox	4
	roll	3
grows	goes	1
	blows	1
	gets	3
	swells	1
	breaks	1

Table 8 (Cont.)

Word	Substitution	Number
heard	head	1
	heerd	1
	hurried	2
	near	3
high	side	1
	hill	3
	right	1
hurried	tried	1
	heard	1
John	Peter	5
	Joe	18
knew	know	4
	now	1
	heard	1
large	long	11
	short	1
	light	1
line	string	1
	light	2
	large	1
Miss	Mrs.	45
neighbors	friends	4
	lights	1
pile	piece	1
	pole	3
	place	1
	pie	1
	hole	1
	post	1

Table 8 (Cont.)

Word	Substitution	Number
place	plant	5
	plants	7
	pile	2
pull	put	6
	push	5
	puff	3
	pile	1
scare	share	1
	keep	1
	care	2
second	fence	1
	side	2
	scare	1
	next	1
shook	tied	1
	show	1
	took	1
	blew	1
	stuck	1
	shake	1
	stick	1
slow	short	5
	small	2
	soft	1
	shout	1
smell	small	15
	smile	2
	shell	1

Table 8 (Cont.)

Word	Substitution	Number
sniff	smiled	1
	smell	6
	snuff	1
	snuffed	1
	sun	1
	save	1
soft	small	3
	short	6
	nice	1
start	set	1
	stay	1
sting	drink	1
	sticky	1
	spring	2
	sitting	1
straw	string	2
	hay	2
	still	1
their	the	3
	his	1
	another	1
	those	1
	three	1
third	tired	3
	three	22
those	other	1
	these	9
	the	1
through	saw	1
	thought	1
	with	2
	throw	1

Table 8 (Cont.)

Word	Substitution	Number
tie	try	6
	take	4
tired	scared	1
	tried	2
	trying	2
	right	1
wait	until	1
	watch	2
	whisper	1
	went	1
	while	1
	wish	1
	want	1
wiggles	sniffs	3
	wags	6
	waggles	1
	wiggled	1
wonderful	beautiful	10
won't	wouldn't	23
	don't	1
would	could	9
	couldn't	1
wouldn't	won't	40
	don't	1
	couldn't	2

The word "Miss" had the greatest number of errors, the word "Mrs." being substituted for it 45 times. The word "Wouldn't" had 43 substitutions.

Table 9
 UNIT LOCATION OF THE 50 HARDEST WORDS IN
FRIENDS AND NEIGHBORS

Unit 1	Unit 2	Unit 3
balloons	couldn't	clean
bell	enough	grows
both	fool	knew
Buzz	high	large
drops	sniff	place
heard	their	smell
John	won't	soft
line		start
neighbors		sting
pull		through
tie		tired
would		wait
		wiggles
		wonderful

Table 9 (Cont.)

Unit 4	Unit 5
build	boil
care	churn
hurried	country
Miss	earth
pile	straw
scare	third
second	
shook	
slow	
those	
wouldn't	

Table 10
 THE 50 EASIEST WORDS IN FRIENDS AND NEIGHBORS

before	himself	side
Brother	hole	spring
caw	honey	today
Christmas	hot	tomorrow
circus	if	top
climb	I'll	train
coat	late	try
cold	leaves	Uncle
cut	long	water
dig	Mrs.	winter
Elephant	much	Zeke
eyes	nose	
fall	off	
forget	park	
fox	people	
garden	porridge	
grass	pot	
hair	rake	
herself	seeds	

These words were taken from the retest data. The number of errors ranged from 0 - 2.

CHAPTER III
SUMMARY AND CONCLUSIONS

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The purpose of this study was to determine which words in the Scott, Foresman Second Reader, Friends and Neighbors were the most difficult to learn and what errors persisted. A battery of six original stories was composed to measure the number of errors made on the 236 new words introduced in Friends and Neighbors. The tests were administered individually to one hundred fifty-one second grade children in the average and superior reading groups. Eight second grade teachers participated in the experiment. The California Mental Maturity Test was administered preceding the study.

Conclusions

1. Total errors were reduced one-third, there being 2624 on the first testing and 1783 on the retest.
2. Non-recognition errors were reduced less than one-half with 1329 on the first testing as compared to 778 on the retest.
3. Errors of substitution were reduced one-fifth with 1049 on the first testing and 844 on the retest.
4. Addition errors were reduced one-fifth with 150 on the first testing as compared to 117 on the retest.
5. Omission errors were reduced one-half with 96 on

the first testing as compared to 44 on the retest.

6. Errors on the 50 hardest words consisted of 385 non-recognition errors and 507 substitution errors.

7. At the end of the first testing, non-recognition errors exceeded substitution errors, there being 1329 of the former and 1049 of the latter. These findings indicate more dependence on word-analysis techniques than context at the beginning of the year.

8. At the end of the retest, the reverse was true, with slightly more substitution errors, there being 844 as compared to 778 non-recognition errors. This indicates that as the study progressed, the children learned to depend less upon word-analysis and more upon context clues even though their guesses were not always correct.

9. This group being mentally superior, you would expect them to have more mature reading habits. When encountering an unknown word in context, a mature reader will attempt to substitute a word which would make the meaning clear. This is evident in the retest data as well as in the data on the 50 hardest words, since there were fewer non-recognition errors than substitution errors.

10. Addition errors exceeded omission errors in both the first testing and the retest. This is typical of good readers, since they tend to make additions to words rather than omit them.

11. The errors on the fifty easiest words ranged from no errors to two errors each.

12. The small type and the fuzziness of some of the words due to the duplicating technique had a bearing on the results.

CHAPTER IV
SUGGESTIONS FOR FURTHER RESEARCH

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SUGGESTIONS FOR FURTHER RESEARCH

1. Analyze the substitution errors on the fifty hardest words to find out:
 - a. What errors were due to association.
 - b. What errors were due to incomplete cues.
2. Present the fifty hardest words in isolation to determine which words are intrinsically difficult.
3. Make a study of the Curriculum Foundation Series from the Pre-Primers through the Second Reader to determine the number of repetitions of the more difficult words.