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## THE CORRELATION OF READING RATE WITH INTELLIGENCE SCORES OF GRADE SCHOOL CHILDREN AFTER TRAINING IN PHONICS

LESTER N. GILL AND MYRTLE PAINE GILL

### INTRODUCTION

It is generally conceded that one learns more through the use of the eyes than through any of the other sense organs. Much of this visual learning is the result of reading. The present study was undertaken to try to determine if special training in phonics would improve reading ability, since there has been some difference of opinion concerning the value of phonics as an aid in teaching reading.

### METHOD AND PROCEDURE

This study was carried on in the third, fourth, fifth and sixth grades of a school system in which phonics had not been taught for over five years. The teachers of these grades were first consulted about the purposed study. They were very enthusiastic about it and entered into the plan whole heartedly. Special training in how to teach phonics was given these teachers before the experimenting was begun. The New Phonic Method (2) was chosen as the system of phonics to be used.

One of the objections of teaching phonics is that it will be substituted for the thought-method, according to Parker (4). To offset this objection, the meaning of each new word was always emphasized, so, the pupils would be sure to get the thought, i.e., understand what they were reading, thus building up a good, useful vocabulary.

Since it was not practical to give the tests before systematic training in phonics, it is assumed that grade norms are valid for this school system. After the pupils had had eight months of systematic training in phonics, they were given the Gates Silent Reading Tests (1) and the Kuhlmann-Anderson Intelligence Tests (4).

### RESULTS

The results obtained are shown by the following tables:

		Table I—Grade Three	
Pupil No.	I. Q.	Average Reading Grade Years and Tenths	Reading Level Compared With Norms in Years and Tenths. (+) above, (-) below
1	99	4.9	+1.1
* 2	103	4.1	+0.3
3	118	5.6	+1.8
4	88	3.8	0.0
5	122	5.3	+1.5

* 6	102	4.6	+0.8
* 7	94	4.0	+0.2
8	122	5.3	+1.5
9	116	5.1	+1.3
10	131	9.3	+5.5
*11	100	4.6	+0.8
12	106	5.6	+1.8
13	123	5.2	+1.4
14	113	5.1	+1.3
15	104	4.3	+0.5
16	93	4.3	+0.5
*17	97	4.2	0.4
18	100	4.4	+0.6
19	98	4.3	+0.5
20	119	6.3	+2.5

The correlation between intelligence and reading grade was +.85. Pupils marked with an asterisk had less than eight months training in phonics. Per cent of group above normal 100%. Average fractional year gain 1.22.

Table II—Grade Four

Pupil No.	I. Q.	Average Reading Grade Years and Tenths	Reading Level Compared With Norms in Years and Tenths.
			(+) above, (-) below
1	99	5.5	+0.7
2	102	5.6	+0.8
3	97	5.0	+0.2
4	88	4.5	-0.3
5	120	8.5	+3.3
6	90	4.6	-0.2
7	118	8.6	+3.8
8	100	5.2	+0.4
9	87	4.6	-0.2
10	104	6.0	+1.2
11	105	6.2	+1.4
*12	96	4.9	+0.1
13	107	6.6	+1.8
14	98	5.7	+0.9
15	110	7.0	+2.2
*16	96	4.7	-0.1
17	95	4.6	-0.2
18	110	6.7	+1.9
19	105	6.2	+1.4

The correlation between intelligence and reading grade was +.86. Pupils marked with an asterisk had less than eight months training in phonics. Per cent of group above normal 76%. Average fractional year gain 1.03.

Table III—Grade Five

Pupil No.	I. Q.	Average Reading Grade Years and Tenths	Reading Level Compared With Norms in Years and Tenths.
			(+) above, (-) below
1	95	5.5	-0.3
2	101	7.3	+1.5
3	100	6.0	+0.2
4	105	7.3	+1.5
5	97	5.6	-0.2
6	115	9.3	+3.5
7	103	7.4	+1.6
* 8	98	4.8	-1.0
9	93	4.6	-1.2
10	95	5.4	-0.4
11	96	4.7	-1.1
12	92	5.0	-0.8
13	98	6.6	+0.8
14	104	7.4	+1.6
15	120	10.2	+4.4
16	91	5.9	+0.1
17	105	9.3	+3.5
18	92	6.1	+0.3
19	107	8.0	+2.2
20	75	4.4	-1.4
21	89	5.6	-0.2
22	108	8.4	+2.6
23	98	5.8	0.0
24	128	12.1	+6.3
25	102	7.0	+1.2
26	110	9.2	+3.4
*27	90	4.6	-1.2
*28	94	5.2	-0.6

The correlation between intelligence and reading grade was +.88. Pupils marked with asterisk had less than eight months training in phonics. Per cent of group above normal 61%. Average fractional year gains .94.

Table IV—Grade Six

Pupil No.	I. Q.	Average Reading Grade Years and Tenths	Reading Level Compared With Norms in Years and Tenths.
			(+) above, (-) below
1	98	5.8	-1.0
2	105	9.1	+2.3
3	100	6.7	-0.1
4	93	5.2	-1.6
5	106	8.5	+1.7
6	97	5.8	-1.0
7	103	7.7	+0.9
8	120	10.3	+3.5
9	98	7.9	+1.1
10	90	4.6	-2.2
11	107	8.8	+2.0
12	102	7.1	+0.3
13	113	11.1	+4.3
14	101	6.2	-0.6
15	99	6.4	-0.4

16	100	6.6	-0.2
17	99	6.6	-0.2
18	113	10.7	+3.9
19	94	5.2	-1.6
20	100	7.4	+0.6
21	96	6.3	-0.5
22	89	5.5	-1.3
23	103	9.6	+2.8
24	104	7.7	+0.9
25	101	9.3	+2.5
26	118	11.9	+5.1
27	99	7.8	+1.0
28	101	10.3	+3.5
29	102	6.7	-0.1
30	99	7.2	+0.4
31	95	6.2	-0.6
32	107	9.7	+2.9
33	110	9.9	+3.1
34	101	9.2	+2.4
35	100	7.3	+0.5
36	111	9.7	+2.9

The correlation between intelligence and reading grade was +.85. Pupils marked with an asterisk had less than eight month training in phonics. Per cent of group above normal 61%. Average fractional year gain 1.03.

Table V

Grade	Deviation from Grade Year Norms		
	Expected Reading Grade	Reading Gain or Loss	Average Reading Grade
Third	5.02	3.8	+1.22
Fourth	5.83	4.8	+1.03
Fifth	6.74	5.8	+0.94
Sixth	7.83	6.8	+1.03

Table VI

Correlation Between Intelligence and Reading Grade Years

Third	+ .85
Fourth	+ .86
Fifth	+ .88
Sixth	+ .85

### SUMMARY AND CONCLUSIONS

The results indicate a very definite trend for this study of 103 pupils. The correlation between intelligence quotient and average reading grade was +.85 for the third grade, +.86 for the fourth grade, +.88 for the fifth grade and +.85 for the sixth grade. Reading grade averages for each grade were above the normal reading grade, by the following amounts: third grade 1.22, fourth grade 1.03, fifth grade .94 and sixth grade 1.03. These averages include eleven pupils who did not have the advantage of the phonic training for the full eight months. All of these, who had less than eight months training in phonics, ranked below the average in reading grade for their class. The range was from .5 year reading grade below average to 2.14 years reading grade below average.

We would conclude that, this experiment adds further evidence that the proper use of phonics, as a tool is a very useful device, to aid in the teaching of good reading.

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