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Perception of Relations in Reading

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The present study deals with the measurement of intelligence on the college level by means of a new type of test employing the medium of reading comprehension. The test was first described by Dr. D. D. Feder at the 1934 meeting of this group. Basic to the new approach is the hypothesis that intelligence is manifested in the ability to perceive relationships in problem situations. In accordance with this hypothesis, individual differences in reading comprehension are due to variations in ability to perceive inter-relationships of ideas in reading materials. The new reading test assumes that there are gradations of comprehension which may range from superficial acquaintance with some factual detail, to a deep integration from which the individual extracts fundamental principles. In contrast with the shallow sampling of material characteristic of the usual objective test, the Reading Comprehension Maturity test (or simply RCM) covers a narrower field, but attempts to measure particularly the depth of understanding and integration of given material.

The procedure consisted of the revision of the RCM E 1[1], and the construction of two new tests.

I. The RCM E 1 was composed of three parts as follows:

Part I. A reading passage, test items on which purport to measure comprehension of factual material.

Part II. A second reading passage, test items on which purport to measure appreciation, or identification with the author's idea.

Part III. A third reading passage, test items purporting to determine ability to make inferences.

The test items were arranged in groups of four, one group for each paragraph in the reading passage. In each group, one statement is false, one indicated the grasp of an outstanding detail, one indicated a more complete comprehension of the paragraph, and one is a complete summary of the paragraph. Subjects were instructed to indicate best and worst statements in each group by the letters B and W.

II. The RCM E 2-X consists of 15 factual and 15 inference

[1] Reported before the 1934 meeting of the Iowa Academy of Science.

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Table I — Part-Whole and Inter-Part Correlation Coefficients for Reading Comprehension Maturity E 1.

Parts	I		II		III		
	r	P.E.	r	P.E.	r	P.E.	
I							
II	.30 ± .06						N = 99
III	.29 ± .06		.24 ± .06				
Total	.66 ± .04		.68 ± .04		.77 ± .03		

Table II — Part-Whole and Inter-Part Correlation Coefficients for Reading Comprehension Maturity E 2-X

Parts	I		II		
	r	P.E.	r	P.E.	
I					
II	.41 ± .06				N = 99
Total	.80 ± .02		.87 ± .02		

Table III — Intercorrelations of Parts and Totals of Reading Comprehension Maturity E 1 with Parts and Totals of Reading Comprehension Maturity E 2-X

RCM E 1	RCM E 2-X						
	I		II		Total		
	r	P.E.	r	P.E.	r	P.E.	
I	.44 ± .05		.25 ± .06		.40 ± .06		
II	.36 ± .06		.21 ± .06		.32 ± .06		N = 99
III	.48 ± .05		.45 ± .05		.54 ± .05		
Total	.60 ± .04		.44 ± .05		.60 ± .04		

Table IV — Intercorrelations of Organization Test and Parts and Totals of Reading Comprehension Maturity Tests.

	RCM E 1	RCM E 2-X			
	Total	I	II	Total	
	r P.E.	r P.E.	r P.E.	r P.E.	
Org. Test Total (5 min.)	.38 ± .06	.25 ± .06	.10 ± .07	.20 ± .06	N = 99

items based on a *common* reading passage of 15 paragraphs. The items were constructed on the same basis as were those in the RCM E 1 test.

III. A third test, known as the Organization test, was constructed to determine the effect of the reading rate where comprehension was so simple that the poorest intelligence was not taxed. In it, simple scrambled sentences are to be correctly rearranged by the subject working against time limits.

To study the theoretical psychological implications and to determine the usability of such tests in a reading situation in which the intelligence of the students is given full rein, the tests were administered to the students in elementary psychology at the State University of Iowa. Correlations were based on the scores of

99 sophomores who had taken all three tests. Any error in the statistical results is thus in the direction of conservatism due to the highly selective nature of this college level.

Preliminary results (see accompanying tables) may be summarized as follows:

1. The findings of the revised form, RCM E 1, verify the original findings of Dr. Feder as to part whole and interpart correlations.

The correlation .41 ± .06 between parts one and two of the RCM E 2-X seems to indicate a valid distinction between reading for information and reading for inferential purposes, two of the types posited by the RCM E 1, their correlation in that test being .29 ± .06.

3. The high part-whole and low inter-part correlations in both forms indicate conformity to one of the most exacting of test criteria.

4. Preliminary statistical analysis shows that the relations between the analogous parts of the two forms are closer than in any other area, indicting tentatively the existence of a third type of reading, namely reading for identification — to some degree unrelated to either factual or inferential reading.

5. The reading rate as measured by the organization test is not highly correlated with depth of comprehension as measured by the RCM tests. This is especially true of the relationship with the inference parts, indicating the minor role played by the speed factor in this area of intelligence measurement.

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