

# O.A.T. C.E.R.E.A.L.

## OVERALL ACHIEVEMENT TEST CUMULATIVE EVALUATION REFLECTING EDUCATIONAL ABILITY LEVEL

The OAT-CEREAL was created to illustrate one aspect of the almost total mindlessness of grade equivalents for the reporting of educational test data. The deceptive apparent clarity and simplicity of these statistics are tender traps for the unwary. At first glance, grade equivalents seem to reflect, with a commendable return to basics, a student's actual functioning level in a given subject area. However, since grade equivalents are simple transformations of raw scores, a student may in fact do no work at all on the grade level reported as equivalent to that student's total score. The child might do unusually accurate work below the reported level or the opposite.

Ralph tends to be very careless with simple computation and has a slight tendency to confuse the numbers, 6 and 9. Consequently he failed items 1, 2, 3, 4, 5, 6, 7, and 9, on the OAT-CEREAL Math test and obtained a raw score of only four points for a grade equivalent of 4.5, despite the fact that he had no difficulty whatsoever with items 8, 10, 11, 12, all far above a fourth grade curriculum.

Bunny, an otherwise very competent reader, still confuses the letters, t and f. This unfortunate error caused her to hilariously mispronounce eight of the twelve words on the OAT - CEREAL Oral Reading Test and obtain a grade equivalent of 4.6, although she read (and understood) without difficulty the words, cacophony and polyandry.

The point -- obviously enough -- is that, while grade level designations of test items or groups of items may be meaningful and even helpful from time to time, especially with criterion-referenced measures, grade equivalents of raw scores not only fail to present any meaningful information but may in fact serve to convey impressions that are entirely contrary to fact. For normative purposes, it is therefore much wiser to compare student's test performance to that of the student's peers through standard scores, percentiles, stanines, normal curve equivalents, or similar ranking or deviation measures.

"Statistics don't lie, but statisticians do."

### Math

- |                   |                               |
|-------------------|-------------------------------|
| 1. $3 + 2$        | 7. $2/9 + 5/9$                |
| 2. $9 - 6$        | 8. $7/12 - 2/3$               |
| 3. $43 - 19$      | 9. $3.964 \div 2.91$          |
| 4. $26 \times 4$  | 10. $3x + 2y = 8, x =$        |
| 5. $329 \div 8$   | 11. factor: $x^2 + 2xy + y^2$ |
| 6. $3571 \div 63$ | 12. $\sqrt{3x^2 - 2x - 6}$    |

### Oral Reading

- |              |                      |
|--------------|----------------------|
| 1. cat       | 7. trough            |
| 2. sink      | 8. magistrate        |
| 3. crashing  | 9. remonstrate       |
| 4. touches   | 10. readministration |
| 5. plastics  | 11. cacophony        |
| 6. debatable | 12. polyandry        |

### Normative Data

<u>Math</u>		<u>Reading</u>	
Raw Score	Grade Equivalent	Raw Score	Grade Equivalent
1	1.2	1	1.3
2	2.3	2	2.4
3	3.4	3	3.5
4	4.5	4	4.6
5	5.5	5	5.6
6	6.5	6	6.6
7	7.5	7	7.6
8	8.5	8	8.6
9	9.6	9	9.7
10	10.7	10	10.8
11	11.8	11	11.9
12	12.9	12	12.9

John O. Willis, Psychoeducational Specialist  
Special Educational Consortium  
Milford, New Hampshire