

## Appendix J

The formula used is a modification of a reading expectancy formula developed by Bond and Tinker (Bond, G. L. and Tinker, M.A., *Reading Difficulties: Their Diagnosis and Correction* (2nd ed.) New York, Appleton-Century-Crofts, 1967). The Bond & Tinker studies indicate that the predicted achievement scores derived from the original formula (I.Q. x years in school + 1.0 = expected reading grade) closely approximate actual reading achievement. Because the components of the formula are general, i.e., number of "years in school", and intelligence, it is believed that this formula can be adapted and appropriately applied to all the academic areas specified in PI 11.34 (2) (g).

The Bond & Tinker formula did not include 5 year old kindergarten in "years in school" but in effect allowed for it by adding in a 1.0 factor. To simplify the formula and to ensure that the child is constantly compared to the same referent group, 5 year old kindergarten was added to the formula and the 1.0 factor deleted. This should ease computation without detracting from the accuracy of the formula.

## Definition of factors in formula:

A. I.Q. - full scale score derived from an individual measure of intellectual functioning. I.Q. should be written as a decimal, for example 87 equals .87, 105 equals 1.05, etc.

B. years in school - number of years in school beginning with 5 year kindergarten.

The Bond & Tinker formula was weighted by a factor of .5 (50%) in order to indicate the level at or below which a child must function to exhibit a significant discrepancy. The full formula then is:

(I.Q. x years in school) x .5 = grade score (50% of expected achievement).

## Examples utilizing this formula are:

A. A child beginning the fifth year of school (beginning fourth grade, e.g., 5 years in school) with a measured full scale I.Q. of 92 (.92) would have a grade score computed in the following manner:

$$(.92 \times 4) \times .5 = (3.60) \times .5 = 1.8$$

B. A child in the 7th month of second grade, who is repeating second grade, with a measured full scale I.Q. of 101 (1.01) would have a grade score computed in the following manner:

$$(1.01 \times 3.7) \times .5 = (3.7) \times .5 = 1.9$$

C. A child in the ninth year of school (8th grade) with an I.Q. of 113 (1.13), who is identified in January, would have a grade score computed in the following manner:

$$(1.13 \times 8.5) \times .5 = (9.6) \times .5 = 4.8$$

D. A child entering kindergarten at 5 years of age with average ability and functioning at or below a 4 year level in 2 or more of the readiness areas will meet the academic criteria of eligibility. The formula for establishing grade score should not be used.

## PI Appendix

E. A child entering third grade at the age of 8 who has not completed 3 years in school (no kindergarten) would have a factor of 1.0 added to the years in school for determining grade score (50% of expected achievement).

(I.Q. x years in school) x .5 = grade score

$$(1.00 \times 2 + 1) \times .5 =$$

$$(2.00 + 1) \times .5 =$$

$$3.0 \times .5 = 1.5$$

Therefore if this 8 year old child entering third grade is achieving at the 1.5 grade level or below in 2 or more of the readiness or basic skill areas, this child will meet the academic criteria of eligibility.

F. A child entering first grade who has average ability and has completed 2 years in school (retained in kindergarten) would have the formula applied for establishing grade score.

$$(.90 \times 2) \times .5 = 1.80 \times .5 = .9$$