A Comparison of the 1976 and 1978 Wide Range Achievement Test: Implications for the Learning Disabled

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This study is a comparative analysis of grade equivalent and standard scores on the 1976 and 1978 revised editions of the Wide Range Achievement Test (WRAT). A previously identified learning disabled sample is utilized. When using standard scores, there were no significant differences between the 1976 and 1978 WRAT for all three subtests. When using grade equivalent scores, two of the three subtests indicated significant mean differences. The comparison indicates consistency of direction for all three subtests, with 1978 Level 1 yielding higher performance and 1978 Level 2 yielding lower performance. It is argued again that standard scores are the more appropriate representation of functioning when considering learning disability needs.

Individually administered tests of achievement have enjoyed widespread use by school psychologists and other exceptional educational personnel. Although many of these instruments have met with criticism levied at their reliability, validity, and norming procedures (Barone 1978), their popularity continues. Of particular concern is the unfortunate high reliance on grade equivalent scores to indicate levels of achievement as per individual assessments as well as degrees of academic growth or decline as indicated, in part, by individual educational programs.

One such popular assessment instrument is the Wide Range Achievement Test (WRAT). It was designed to assess word recognition/pronunciation, written spelling, and arithmetic computational skills. As a measure of achievement, it provides a grade equivalent. standard score, and percentile rank. Since its origin in 1936, the WRAT has undergone revisions in 1946, 1965, 1976, and 1978. Although some data exist demonstrating the relative comparability of standard scores and grade equivalents between the 1946 and 1965 WRAT subtests (Jastek & Jastek 1978), no studies appear indicating such comparability between the 1976 and 1978 revisions. In using the WRAT, practitioners must be assured that when comparisons of data occur involving revised editions, the revision has not altered the applicability of grade equivalents and standard scores across time or when data comparison occurs. Such concerns are obvious during three-year reevaluations for suspected exceptional educational needs and individual educational program reports. Such comparisons take on added concern because of the emphasis on grade equivalent scores for enrollment purposes into exceptional educational programs.

This study provides a comparative analysis of grade equivalent scores and standard scores between the 1976 and 1978 revised editions of the WRAT utilizing a previously identified learning disabled population. Central to the theme of this study is a discussion relative to the implications of similarities and differences between the 1976 and 1978 WRAT as they apply to assessment and enrollment procedures for the LD student.

METHOD

Subjects

The sample population consisted of 32 students between the ages of 6 and 15. All students had been assessed and diagnosed as learning disabled by a multidisciplinary team within the previous academic year. The team recommendation for enrollment in a learning disabilities program was based on several criteria: (a) a discrepancy score generated by an expectancy formula (IQ × years in school × 0.5) where expected achievement is defined as measured intelligence level times actual years in school, and functional achievement is defined as the student's instructional level in readiness and basic skill areas; (b) average intellectual potential for grade-appropriate performance levels as measured by the Wechsler Intelligence Scale for Children–Revised; and (c) a series of individually administered achievement tests such as the KeyMath, Test of Written Language, WRAT, Woodcock Reading-Mastery, and the Woodcock-Johnson Psychoeducational Battery. Students identified as learning disabled demonstrated average intellectual functioning with a functional achievement level at or below 50% of their expected achievement in at least one major academic skill area such as reading/language or arithmetic. All students were from a white, middle-class, medium-sized city located in southeastern Wisconsin.

Procedure

Once the sample population had been identified, the WRAT protocols were assessed and the data—including raw scores, chronological age, grade equivalent, and standard score—were extracted. This provided sufficient data for a comparative analysis between the 1976 and 1978 editions of the WRAT in the LD population. The analysis was a determination of the difference between the 1976

and 1978 grade equivalent and standard score means for each WRAT subtest.

Results

The test of significance (for correlated samples) was to determine whether the mean of the difference between the 1976 and 1978 WRAT subtests is significantly different from zero. The six *t*-tests yielded no significant differences when the difference of the means of the standard scores were compared for each of the three subtests. However, when the difference of the means was compared using grade equivalent scores, two of the three subtests yielded significant differences. The grade equivalent score on the reading (word recognition) subtest yielded a significant difference, $t\ (31) = 2.09, p < .05$. Besides word recognition, the grade equivalent scores on the spelling subtest yielded a significant difference, $t\ (31) = 2.27, p < .05$. The grade equivalent scores on the arithmetic computation subtest did not yield a significant difference between the 1976 and 1978 WRAT.

The significant differences observed between the 1976 and 1978 grade equivalent scores on the reading and spelling subtests are more clearly understood when the sample's actual grade equivalent and standard score 76–78 differences are individually reviewed. As would be expected, greater variability exists between the 1976 and 1978 grade equivalent scores than exists between the 1976 and 1978 standard scores. While the significant differences found on the reading and spelling subtests do not indicate direction, the review of each individual's 76–78 comparison indicates that at Level 1 (ages 5 to 11½) the change from the 1976 to 1978 WRAT yields higher grade equivalent scores, while lower grade equivalent scores result when utilizing Level 2 (ages 12 to 64). This is true across all three subtests, and generally there are few exceptions to the Level 1 higher performance and Level 2 lower performance when comparing the 1976 and 1978 WRAT. The arithmetic subtest, while not yielding a significant mean difference, does reflect an identical pattern of change, with higher grade equivalents at Level 1 and lower grade equivalents at Level 2. Indeed, the changes in grade equivalent scores (lower) are greater on the arithmetic subtest Level 2 than on the other two subtests.

DISCUSSION

Findings of this study indicate that the 1978 edition of the WRAT can yield grade equivalent scores that are significantly different from those obtained in the 1976 WRAT on the reading and spelling subtests for a specific LD population. The standard score comparisons did not yield significant differences between the 1976 and 1978 WRAT. Additionally, the direction of change between the two years indicates higher grade equivalent scores on Level 1 and lower grade equivalent scores on Level 2.

The differences on grade equivalent (or grade rating) scores between the 1976 and 1978 WRAT call into question the dependence on grade equivalent scores for decision-making purposes when identifying and diagnosing the LD student. The question is not (nor should it be) limited to the WRAT or differences found between the 1976 and 1978 norms in that test. Cronbach (1970) has argued that the use of grade conversion should never be used for this purpose. Indeed, the authors of the WRAT remind practitioners that it is age normed, not grade normed, and that grade ratings are inappropriate when comparing individuals or groups (Jastak & Jastak 1978).

Despite the professional caution, most practitioners continue utilizing grade equivalent scores when reporting results of individual assessments. This procedure may be most inappropriate for the suspected LD student. This is particularly true since most states (and the federal government) include in their definition of the LD child criteria that include either an implicit or explicit reference to a discrepancy between achievement and ability. Determination of achievement level is often represented as a grade equivalent or determined by a "significant discrepancy level," which is in turn compared to expected grade equivalent scores. The fluctuation or instability of the grade equivalent score (not only on the WRAT, as demonstrated here, but with other achievement measures as well) renders the very basis of the achievement versus ability determination questionable.

Not only are the differences in grade equivalents between the 1976 and 1978 norms of concern but also the fact that grade equivalent scores are susceptible to large fluctuations based on small raw score differences that are determined by a limited number of items. Utilizing the grade equivalent scores from the WRAT, either for reevaluations (which might cut across both the 1976 and 1978 editions) or initial individual assessments when determining the existence of a learning disability, is at best inappropriate. The procedure is likely to increase the determination of a learning disability when there is none, or not determining a learning disability when one exists. In other words, variability in grade equivalent scores necessarily contributes to error in initial diagnoses.

The present study raises again a word of caution to practitioners who conduct individual assessments and participate in determining the existence of learning disability needs in students. Student performance on the WRAT yields differences between the 1976 and 1978 editions on spelling and reading for a previously identified LD group, and those differences reaffirm the importance of utilizing standard scores when engaged either in initial assessments or reevaluations.

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