Psych Savvy

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TESTING, TESTING 1,2...

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As students proceed through the education system they will take many tests. This article will explain some of the tests a student may experience and what the various test scores mean.

Testing terms:

*Standardized tests require that the procedures used and directions given are the same for all students across all examiners.

*Norm referenced tests compare an individual's performance to that of a normative group, and emphasize relative not absolute performance.

*Criterion referenced tests are used to measure student mastery of instructional objectives or curriculum. They may be used as a "benchmark" to identify strengths or weakness or readiness to move on to another level of instruction. The number of multiplication facts a child knows is a criterion based measure.

*Curriculum based measurement (CBM) is a type of assessment that involves material drawn from the student's curriculum which is assessed on an ongoing basis to help make educational decisions. Norms can be developed to determine what is typical performance for the comparison group. These measures are brief, accurate and sensitive to instructional changes. A one minute reading fluency rate taken from the basal test is an example of CBM.

*Intellectual assessment (IQ testing) is typically done with a standardized, norm referenced test for the purpose of predicting academic achievement. The best measures are administered individually and are developed so that an individual's performance can be compared to that of a norm, or comparison group, that matches the general make-up of the US population. A variety of tasks are used to sample verbal, nonverbal, spatial, analogies, sequential, attention and memory based abilities. Though IQ test scores are usually stable after age eight, they may vary greatly in young children. The *Wechsler Intelligence Scale for Children III* and the *Stanford Binet Intelligence Scale: Fourth Edition* are commonly used intelligence tests.

*Grade and age equivalent scores are derived by determining the average score obtained on a test by children of various ages or grade placements. If the average score for 10 year olds on a test is 25 correct, then other students obtaining a score of 25 receive an age equivalent score of 10 years. Grade equivalent scores are expressed in tenths of a grade. A score at the 3.2 grade level does **NOT** mean the child has the same skills as a child in the second month of third grade. It means the student passed

the same number of items as that "mythical" 3.2 grade level student. Since age and grade equivalent scores are so easily misunderstood, their use is discouraged.

*Percentile Ranks are commonly used scores that tell us an individual's position in relation to a hypothetical group of 100 students in the standardization group. If 57 of the scores fall below a given score, then that score is at the 57th percentile. Because percentile ranks do not occur at equal intervals, it is difficult to compare percentile scores. The difference between a score at the 25th and 30th percentiles may not be the same as the difference between scores at the 40th and 45th percentiles. Scores falling between the 25 and 75 percentiles are considered average.

*Standard Scores are raw scores that have been transformed mathematically to have a certain mean and standard deviation. Standard scores can be compared against each other in ways that percentiles and grade/age equivalent scores cannot. Intelligence Quotients are examples of a standard score which usually have a mean of 100 and a standard deviation of 15 or 16 points. Most IQ and achievement tests use standard scores.

Applying Test Results:

You've received the following standardized group test results on your third grade son, Sean:

		Percentile	G.E.
California Achievement Test -	Reading	55 %ile	3.9
	Language Arts	52 %ile	3.7
	Science	53 %ile	3.8
	Social Studies	48 %ile	3.3
	Math	17 %ile	1.7

These scores indicate average for grade performance in all subjects except Math. Because his teacher also notices difficulties with Math, Sean was referred for an evaluation for Special Education which produced the following test results:

	Standard Score	Percentile
Intellectual Ability Measure IQ:	104	61 %ile
Individual Achievement Test: Reading	110	75 %ile
Language Arts	105	63 %ile
Math	88	21 %ile

Sean earned an IQ score of 104. This places him within the average range for his age. His Reading and Language Arts scores of 110 and 105 are within the average range and are not significantly different from his intellectual ability score. The Math score of 88 is in the lower end of the average range. It is higher than the CAT Math score. This is not too surprising as individual measures frequently result in better scores than group measures. The results show Sean needs some remediation and practice in math but is not so far behind he needs Special Education.

If you have questions about how to interpret test scores, contact the School Psychologist serving your building or the ASD Psychology Department 263-9225.

References

Andrea Canter. Using and Understanding Test scores: A Handout for Teachers. *Communiqué*, Bethesda, MD: National Association of School Psychologists

Sattler, Jerome. Assessment of Children, Third Edition. Jerome Sattler, Publisher (1988),San Diego, CA