Kaufman Test of Educational Achievement–Normative Update

The Kaufman Test of Educational Achievement was originally published in 1985. In 1998 the authors updated the norms for the test, and it is now called the Kaufman Test of Educational Achievement– Normative Update (Kaufman & Kaufman, 1998a, 1998b). The test is an individually administered, norm-referenced, multiple-skill achievement test that can be used with students in the first through twelfth grades. The K-TEA comes in two different forms: the comprehensive form (Kaufman & Kaufman, 1998b) and the brief form (Kaufman & Kaufman, 1998a). The brief form requires from 10 to 25 minutes to administer and the comprehensive form from 20 to 75 minutes, depending on the child's grade. Both forms of the test are intended for use in program planning, research, placement, student self-appraisal, personnel selection, and measurement of adaptive functioning. The comprehensive form is said to be useful in analyzing strengths and weaknesses and error analyzing. The brief form is designed for use in screening.

All items and subtests remained the same for the normative updates of the two forms of the K-TEA. Although the comprehensive and brief forms bear the same name (K-TEA), they include quite different items and subtests. Thus, we treat the two forms separately in our review.

Subtests

The comprehensive form (CF) contains five subtests.

Reading Decoding  This 60-item subtest requires a student to identify letters and then to read phonetic and nonphonetic words of increasing difficulty.

Reading Comprehension  This subtest contains two types of items. For 12 questions, a student must respond gesturally or orally to commands given in printed sentences. For the
remaining 38 questions, the student must read material and then answer literal and
inferential questions about it. The complexity and variety of language structures increase
over the course of the subtest.

Mathematics Applications  This subtest assesses a student's "ability to solve real-world
problems by the application of mathematics knowledge" (Kaufman & Kaufman, 1985,
p. 196). The 60 items are of two types: math concepts and applications in practical
situations. All problems are read to the student, who can refer to various visual materials
(illustrations, graphs, and so forth).

Mathematics Computation  This 60-item subtest assesses a student's skill in solving
problems involving basic operations, exponents, symbols, abbreviations, and algebraic
equations.

Spelling  This subtest assesses a student's ability to spell 50 words. The tester says each
word and uses each in a sentence. (A student who is unable to write is allowed to spell
orally.)

The brief form (BF) includes three subtests that provide global assessment of skill
in reading, mathematics, and spelling.

Reading  This subtest contains 52 items. The first 23 items require letter identification
and word decoding; the remaining items are similar to those on the CF Reading
Comprehension subtest.

Mathematics  This subtest contains 52 items that assess arithmetic concepts, applications,
reasoning, and computational skill. The first 25 problems require written computation.
The remaining problems are read to a student, who can refer to various visual materials
(illustrations, graphs, and so forth).
Spelling  This 40-word subtest is similar in form to the CF Spelling subtest.

Scores
For individual subtest scores and composite scores (reading, mathematics, and battery), normalized standard scores are available by grade or age and can be compared with either the spring or the fall norm sample. (For the CF, mean = 100 and standard deviation = 15; the values are approximately the same for the BF.) Composites are based on raw-score totals; thus, subtests are not equally weighted within composites. Percentile ranks, stanines, and normal-curve equivalents are also available, as are age and grade equivalents.

Finally, a teacher can conduct an error analysis of each subtest of the CF. Errors made consistently by a student are noted, and the number of errors is compared with the number made by students in the norm sample.

Norms
When the K-TEA was originally developed, it was standardized on a spring sample of 1,409 students and a fall sample of 1,067 students, with no fewer than 100 students per grade. The authors did an exemplary job of describing and documenting the characteristics of the normative sample. Norms for the brief form were equated to the norms for the comprehensive form by testing 589 students with both forms and then equating their scores.

The 1998 normative update was completed in conjunction with normative updating of the Peabody Individual Achievement Test–Revised, the Key Math–Revised, and the Woodcock Reading Mastery Tests–Revised. The sample for the normative updates was 3,184 students in kindergarten through grade 12. A stratified multistage
sampling procedure was used to ensure selection of a nationally representative group at each grade level. Students in the norm group did not take each of the five tests. Rather, one fifth of the students took each test, along with portions of each of the other tests. Thus, the norm groups for the brief and comprehensive forms consist of about 600 students. There are as few as 91 students at three-year age ranges. Because multiple measures were given to each student, the authors could use linking and equating to increase the size of the norm sample.

The authors (Kaufman & Kaufman, 1998b) report that "approximately twelve years separate the data-collection periods for the original K-TEA norms and the updated norms. Changes during that time in curriculum and educational practice, in population demographics, and in the general cultural environment may have affected levels of academic achievement" (p. 257). The authors also include descriptions of the extent to which scores on the various subtests have changed. For example, this is what they say about changes in Reading Decoding for the Comprehensive Form:
The average level of performance has increased slightly. Each grade shows greater variation in reading decoding scores: the lower end of the score distribution has dropped slightly, while the upper end has increased more dramatically, especially at grades 1 through 4. (p. 257)

Reliability
All data on reliability of the K-TEA-NU are for the original K-TEA. The performance of students on the two measures has changed, and so the authors should have conducted a few reliability studies on students in the late 1990s. Generalizations from the reliability of the original K-TEA to reliability of the K-TEA-NU are suspect.
Validity

All data on validity of the K-TEA-NU are for the original K-TEA. The performance of students on the two measures has changed, and so the authors should have conducted a few validity studies on students in the late 1990s. Generalizations from the validity of the original K-TEA to validity of the K-TEA-NU are suspect. This is especially true for measures of external validity, where the measures (such as the Wide Range Achievement Test or the Peabody Picture Vocabulary Test) have been revised.

Summary

The K-TEA-NU is an individually administered achievement test that is available in both comprehensive and brief formats. The test was renormed in 1998. Reliability and validity information is based on studies of the original (1985) test. As with any achievement test, the most crucial concern is content validity. Users must be sensitive to the correspondence of the content of the K-TEA-NU to a student's curriculum.