

Technical Report

CELF[®] Clinical Evaluation of Language Fundamentals FOURTH EDITION



Overview

The *Clinical Evaluation of Language Fundamentals*[®]–Fourth Edition (CELF[®]–4) is an individually administered test for determining if a student (ages 5 through 21 years) has a language disorder or delay. It is a revision of the *Clinical Evaluation of Language Fundamentals*–Third Edition, published in 1995, and

features updated norms, expanded language coverage, and a new Four-Level Assessment Process Model. CELF–4 assesses four aspects of language (morphology and syntax, semantics, pragmatics, and phonological awareness) and can be administered in 30–60 minutes.

Revisions in this Edition

Although CELF–4 still includes familiar subtests and traditional diagnostic scores, new features enhance the evaluation process and reduce the time required to determine if a student has a language disorder. New aspects of the CELF–4 include:

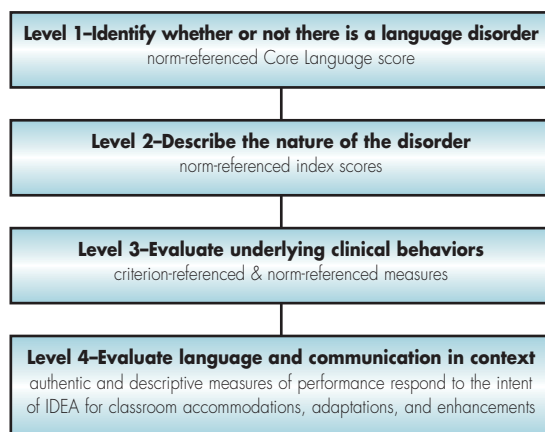
Four-Level Assessment Process

With CELF–4, you now can evaluate a student’s general language ability and whether or not a language disorder is present by administering only four subtests to obtain a Core Language score. Once you determine that the student has a

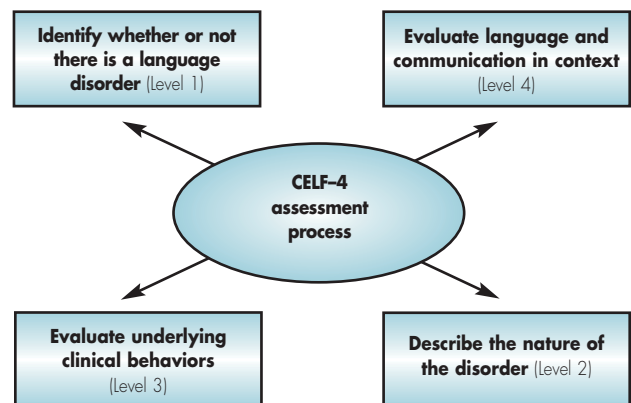
language disorder, you may pursue any of the following options with CELF–4, in any order to evaluate–

- the nature of the disorder (strengths, weaknesses, affected modalities, content areas, conditions that enable the student to perform well);
- the underlying clinical behaviors (working memory, automaticity of speech, phonological awareness); or
- how the disorder affects the student’s classroom performance (authentic assessment with the *Observational Rating Scale* and *Pragmatics Profile*).

The CELF–4 Assessment Process Model



An alternative approach to using the CELF–4 Assessment Process Model



CELF-4 provides a flexible, multi-perspective assessment process for pinpointing a student's language and communication strengths and weaknesses, and for making educationally relevant recommendations for intervention and accommodations. You can administer the subtests in each of the four levels sequentially or select one or more levels to use in any order depending on your evaluation or assessment objectives. This model enables you to administer only the subtests and tasks that respond directly to your objectives for assessment and evaluation.

New Subtests

CELF-4 consists of 19 subtests. Some are new subtests, others are revised subtests from CELF-3, and still others are CELF-3 subtests that have been maintained without changes. A description of each of the new CELF-4 subtests follows.

Expressive Vocabulary, for ages 5–9 years, enables you to evaluate the student's ability to name illustrations of people, objects, and actions (referential naming). This ability relates to preschool, and elementary grade curriculum objectives for labeling and remembering names for people and objects (nouns) and actions (verbs) and using them in academic contexts in response to pictures, graphs, diagrams, and other illustrations, and in spontaneous language to express concise meaning.

With **Word Definitions**, for ages 10–21 years, you can evaluate the student's ability to analyze words for their meaning features, and define words by referring to class relationships and shared meanings, and describe meanings that are unique to the reference or instance. This ability relates to upper elementary and secondary grade curriculum objectives for knowing and using words as concepts with broad, generic applications, rather than with narrow, concrete and contextually bound meanings. The Expressive Vocabulary and Word Definitions subtests enable you to probe the student's vocabulary skills.

Phonological Awareness helps you evaluate the student's knowledge of the sound structure of the language and the ability to manipulate sound through (a) rhyme awareness and production; (b) sentence, syllable, and phoneme segmentation; (c) syllable and phoneme blending; (d) syllable detection; and (e) phoneme identification and manipulation. Phonological awareness skills relate to

preschool and elementary-grade curriculum objectives for producing rhyme and manipulating sounds required for pre-reading and reading. The *Phonological Awareness* subtest was added to strengthen CELF-4's tie to literacy.

The **Pragmatics Profile** provides a profile of a student's pragmatic skills with a checklist of descriptive items in three areas: Rituals and Conversational Skills; Asking For, Giving, and Responding to Information; and Nonverbal Communication Skills. The *Pragmatics Profile* broadens the scope of assessment by encouraging teachers and/or caregivers to participate in the evaluation process. *Pragmatics Profile* was added to CELF-4 to help evaluate a child's language use.

Observational Rating Scale (ORS) is now included with CELF-4 as a performance-based assessment. It offers 40 statements that describe problems a student may have in listening, speaking, reading, and writing. Parents and teachers rate the student using a 4-point frequency of occurrence scale. The student can evaluate his or her own skills in this area, too. The *Observational Rating Scale* provides information about the student's language in classroom and home contexts.

Working Memory can now be assessed using **Familiar Sequences** and **Number Repetition**. The Working Memory index score and *Number Repetition* and *Familiar Sequences* subtests are included to help you explore the possible effect memory skills may have on a student's language disorder. Consider a student's Working Memory index score as preliminary screening information to be used in making decisions about the need for referrals to other professionals who can fully evaluate the student's memory abilities. *Number Repetition* and *Familiar Sequences* subtests broaden the scope of CELF-4 and provide information about working memory ability.

The CELF-4 subtests provide a measure of specific aspects of language form, content, use, and working memory depending on the subtest task and the student's response. Several subtests are used to make up each composite score. In addition to the Core Language score, CELF-4 provides the following scores to help you assess your students: Receptive Language index, Expressive Language index, Language Content index, Language Structure index, Language Memory index, and the Working Memory index.

Subtest	Subtest Task	Composite Score Formed	
		Ages 5–8	Ages 9–21
Concepts and Following Directions	The student points to pictured objects in response to oral directions	Core	9–12 Core
Word Structure	The student completes sentences using the targeted structure(s)	Core	
Recalling Sentences	The student imitates sentences presented by the examiner	Core	Core
Formulated Sentences	The student formulates a sentence about visual stimuli using a targeted word or phrase	Core	Core
Word Classes 1 and 2	The student chooses two related word and describes their relationship	Receptive/Content	Core
Sentence Structure	The student points to a picture that illustrates the given sentence	Receptive/Structure	
Expressive Vocabulary*	The student identifies a pictured object, person, or activity	Content	Content
Word Definitions*	The student defines a word that is presented and used in a sentence		Core/Content
Understanding Spoken Paragraphs	The student responds to questions about orally presented paragraphs; questions target main idea, details, sequence, inferential, and predictive information	Supplemental	Content/Receptive
Sentence Assembly	The student produces two semantically/grammatically correct sentences from visually and orally presented words/groups of words		Content
Semantic Relationships	The student listens to a sentence and selects the two choices that answer a target question		Receptive/ Language Memory
Number Repetition* 1 and 2	The student repeats a series of numbers forward, then backwards	Working Memory	Working Memory
Familiar Sequences* 1 and 2	The student names days of the week, counts backward, orders other information while being timed	Working Memory	Working Memory
Rapid Automatic Naming	The student names colors, shapes, and color-shape combinations while being timed	Supplemental	Supplemental
Word Associations	The student names words in specific categories while being timed	Supplemental	Supplemental
Phonological Awareness*	The student rhymes, segments, blends, identifies sounds and syllables in words and sentences	Supplemental	Supplemental
Pragmatics Profile*	The examiner elicits information from a parent or teacher about the student's social language skills.	Supplemental	Supplemental
Observational Rating Scales	Parent, teacher, and student each rate the student's classroom interaction and communication skills.	Supplemental	Supplemental

* = New Subtest

Core = Core Language Score

Receptive = Receptive Language index

Expressive = Expressive Language index

Content = Language Content index

Structure = Language Structure index

Language Memory = Language Memory index

Working Memory = Working Memory index

Supplemental = Supplemental subtest

Minimizing Item Bias

Precautions were taken to ensure that CELF-4 items are appropriate for a wide range of students from diverse cultural/linguistic/socioeconomic backgrounds. An expert panel including SLPs and other special educators reviewed all CELF-4 test items for racial/ethnic, gender, regional, and socioeconomic bias at all stages of development. Statistical procedures were also used to identify possibly biased items and to further assure that items did not put any group at a disadvantage.

Stringent quality assurance and quality control measures were followed during all phases of item development, field testing, and data analysis. Examiners with testing experience were recruited and completed a background questionnaire. The examiners were certified or licensed professionals

working in school systems or private practice, and were familiar with assessment practice. Our company maintained frequent communication with examiners, giving them feedback and instructions as they administered CELF-4.

Subtests selected for inclusion in CELF-4 tap relevant areas of language development, can be administered and scored consistently and reliably by clinicians from a variety of backgrounds, and demonstrate robust psychometric properties. Throughout development, CELF-4 test items were reviewed by experts in the field to ensure a better balance of items across meaningful subdomains, more specific context-familiar items, and a greater appeal to students.

Scores Reported

CELF-4 provides a comprehensive look at a student's language ability, and clinicians can confidently determine the most appropriate evaluation procedures from an array of assessment options. In addition to subtest scaled scores, CELF-4 provides the Core Language score and composite index scores.

Different combinations of subtests form the Core Language score and the index scores. The CELF-4 index scores provide information about a student's strengths and weaknesses across receptive and expressive modalities, language content, language structure, and the application of working memory to linguistic content and structure.

The **Core Language score** is new to CELF-4. It is a measure of general language ability that quantifies a student's overall language performance and is used to make decisions about the presence or absence of a language disorder. It is derived by summing the scaled scores from the subtests that best discriminate typical language performance from disordered language performance.

The **Receptive Language index** is a measure of listening and auditory comprehension and is derived by summing the scaled scores from a combination of two or three receptive subtests.

The **Expressive Language index** is an overall measure of expressive language skills. The subtests used to

derive the Receptive Language and Expressive language scores depend on the student's age.

The **Language Content index** is a measure of various aspects of semantic development, including vocabulary, concept and category development, comprehension of associations and relationships among words, interpretation of factual and inferential information presented orally, and the ability to create meaningful, semantically and syntactically correct sentences.

The **Language Structure index** is an overall measure of receptive and expressive components of interpreting and producing sentence structure. This index is used only for students ages 5-8 years.

The **Language Memory index** is a measure of the ability to recall spoken directions, formulate sentences with given words, and identify semantic relationships. It provides a measure of the ability to apply working memory to linguistic content and structure. This index is used for students ages 9-21 years.

The **Working Memory index** is a measure of attention, concentration, and recall. This complex manipulation of stimuli in short-term memory underlies the concept of working memory.

All subtest scaled and composite standard scores can be converted to percentile ranks and test-age equivalents.

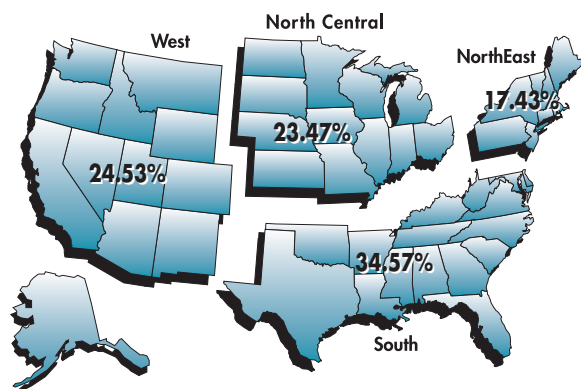
CELF-4 Standardization Sample

The CELF-4 standardization sample of 2,650 students is representative of the 2000 U.S. population in age, gender, race/ethnicity, socioeconomic status based on the education level of the primary parent, geographic region, and children with identified conditions (including language disorders). Our company has taken extra measures to ensure CELF-4 provides trusted and sound information for

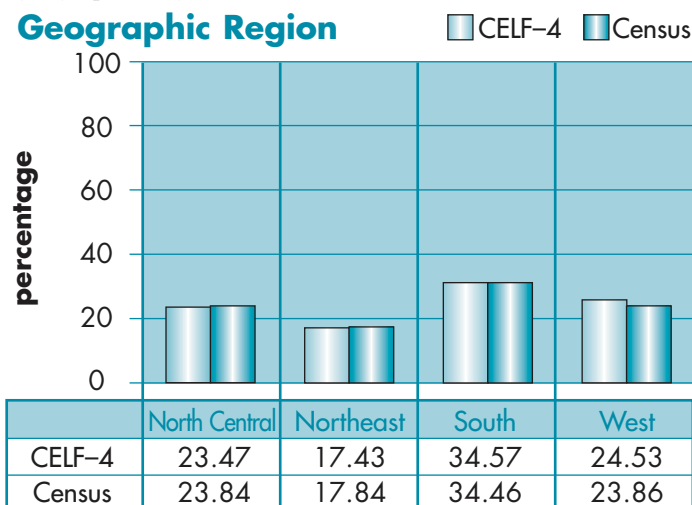
clinicians to rely on for making clinical decisions. The following charts show the demographic characteristics of the total sample.

The figure below shows the standardization sample by geographic regions of the U.S.

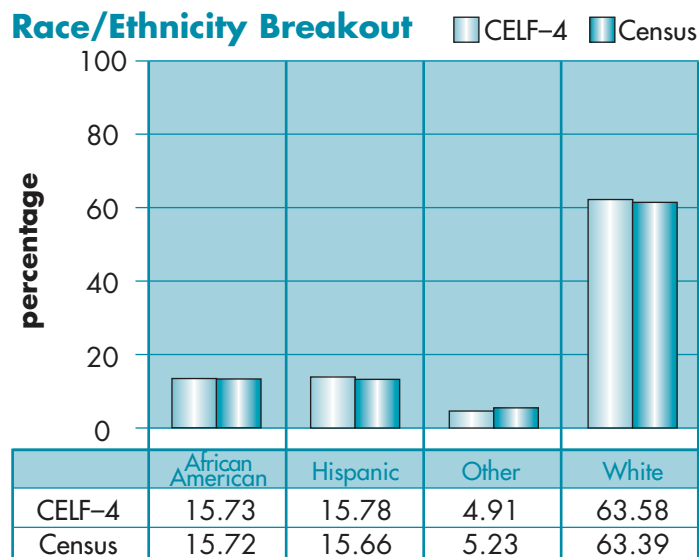
Region Demographics



Geographic Region

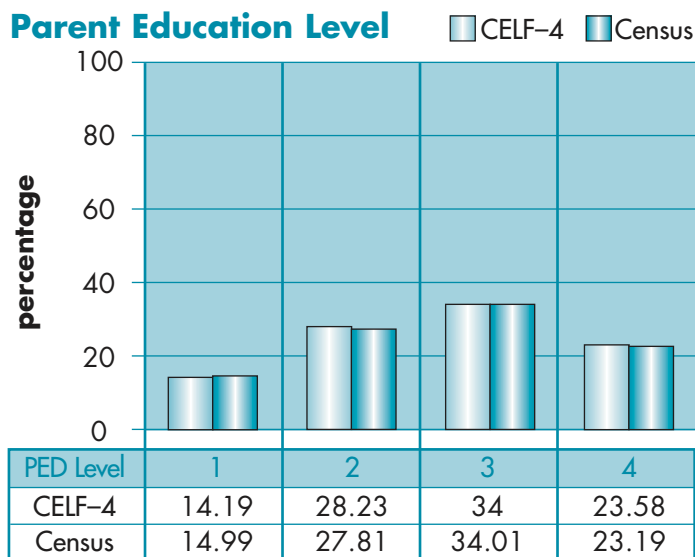


Race/Ethnicity Breakout



Fifty percent of the standardization sample is male and 50% is female.

Parent Education Level



The U.S. population was computed as age-level census targets based on the proportion of the overall sample in each age group.

Reliability and Validity Evidence

The test-retest reliability of CELF-4 was evaluated in a study with 320 students. The stability coefficients range from .71 to .86 for subtests and from .88 to .92 for composite scores based on the standardization population. Internal consistency (data show that subtest test items in CELF-4 are homogeneous) using Chronbach's alpha range from .69 to .91 for subtests and from .87 to .95 for composite scores. The split-half reliability ranged from .71 to .92 for subtests and from .87 to .95 for composite scores. Inter-scorer decision

agreement for subtests that require clinical judgments and interpretation of scoring rules ranged from .88 to .99.

Extensive evidence of validity presented in the CELF-4 Examiner's Manual is based on test content, response processes, internal structure, relationships with other variables, and consequences of testing. Studies were conducted with students who had previously been identified as having a language disorder, and with students diagnosed with mild autism, hearing impairment, and mental retardation.

Diagnostic Accuracy

The diagnostic accuracy of CELF-4 was evaluated using two diagnostic validity statistics that describe how a test performs: sensitivity and specificity. Sensitivity tells us the probability that someone who has a language disorder will test positive for it, and specificity tells us the probability that someone who does not have a language disorder will test negative. The table that follows shows the percentage of students classified as having a language disorder (sensitivity) and the percentage of students without language disorder (specificity) by the CELF-4 Core Language score at 1, 1.5, and 2 standard deviations (SD) below the mean.

Core Language Score SD	Sensitivity	Specificity
-1 SD	1.00	.82
-1.5 SD	1.00	.89
-2 SD	.87	.96

Scoring Updates

Scoring many of the CELF-4 subtests is similar to CELF-3, minimizing the need to learn new scoring procedures. Appendix A in the Examiner's Manual offers scoring examples for the Word Associations and Formulated Sentences subtests. Scoring items in new edition takes into account regional and cultural patterns or variations that reflect differences from mainstream American English that may be present in a student's language. Appendix B of the Examiner's Manual provides more information on cultural and dialectal variations.

The CELF-4 *Scoring Assistant*—a computerized scoring program, provides an easy way to transform raw scores to subtest scaled and composite standard scores. The software offers six types of reports: Summary, Narrative, Graphical, Item Analysis, Pragmatics Profile, and Observational Rating Scale. In addition, the software offers further training in scoring Word Associations and Formulated Sentences.

Summary

CELF-4 provides a flexible, four-level approach to evaluating a student with a suspected language disorder. It not only enables you to determine the student's strengths and weaknesses, but it offers a practical connection to school curriculum and every day classroom language behavior.

CELF-4 offers you a variety of methods, including the strongest data of any CELF edition, to obtain the information you need to make the most appropriate clinical decisions.

For more information, call 800-872-1726
or visit our website at PsychCorp.com



PEARSON

PsychCorp products are now part of Pearson.

PsychCorp.com • 800.211.8378

