

Technical report

C E L F[®] 4^{UK} Clinical Evaluation of Language Fundamentals FOURTH EDITION

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Overview

The *Clinical Evaluation of Language Fundamentals – Fourth Edition UK (CELF[®]–4^{UK})* is an individually administered test for determining if a child (ages 5 to 16 years) has a language disorder or delay. It is a revision of the *Clinical Evaluation of Language Fundamentals – Third Edition UK*, published in 2000,

and features updated norms, expanded language coverage, and a new Four-Level Assessment Process Model. *CELF–4^{UK}* 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^{UK}* still includes familiar subtests and traditional diagnostic scores, new features enhance the evaluation process and reduce the time required to determine if a child has a language disorder. New aspects of the *CELF–4^{UK}* include:

Four-Level Assessment Process

With *CELF–4^{UK}* you now can evaluate a child'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 child has a language disorder, you may pursue any of

the following options with *CELF–4^{UK}*, in any order to evaluate -

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

Level 1 - Identify whether or not there is a language disorder
norm-referenced Core Language score

Level 2 - Describe the nature of the disorder
norm-referenced index scores

Level 3 - Evaluate underlying clinical behaviour
criterion-referenced & norm-related measures

Level 4 - Evaluate language and communication in context
authentic and descriptive measures of performance



CELF-4^{UK} provides a flexible, multi-perspective assessment process for pinpointing a child'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^{UK} consists of 19 subtests. Some are new subtests, others are revised subtests from *CELF-3^{UK}*, and still others are *CELF-3^{UK}* subtests that have been maintained without changes. A description of each of the new *CELF-4^{UK}* subtests follows.

Expressive Vocabulary, for ages 5–9 years, enables you to evaluate a child's ability to name illustrations of people, objects, and actions (referential naming). This ability relates to school curriculum objectives for labelling 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 10–16 years, you can evaluate a child's ability to analyse 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 school 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 child's vocabulary skills.

Phonological Awareness for ages 5–12 years, helps you evaluate the child'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 school curriculum objectives for producing rhyme and manipulating sounds required for pre-reading and reading. The Phonological Awareness subtest was

added to strengthen *CELF-4^{UK}*'s tie to literacy.

The **Pragmatics Profile** provides a profile of a child'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. The Pragmatics Profile was added to *CELF-4^{UK}* to help evaluate a child's language use.

Observational Rating Scale (ORS) is now included with *CELF-4^{UK}* as a performance-based assessment. It offers 40 statements that describe problems a child may have in listening, speaking, reading, and writing. Parents and teachers rate the child using a 4-point frequency of occurrence scale. The child can evaluate his or her own skills in this area, too. The Observational Rating Scale provides information about the child'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 child's language disorder. Consider a child'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 child's memory abilities. Number Repetition and Familiar Sequences subtests broaden the scope of *CELF-4^{UK}* and provide information about working memory ability.

The *CELF-4^{UK}* subtests provide a measure of specific aspects of language form, content, use, and working memory depending on the subtest task and the child's response. Several subtests are used to make up each composite score. In addition to the Core Language score, *CELF-4^{UK}* provides the following scores to help you assess your children: 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 9-12	Ages 13-16
Concepts and Following Directions	The child points to pictured objects in response to oral directions	Core Receptive Content	Core Receptive Memory	
Word Structure	The child completes sentences using the targeted structure(s)	Core Expressive Structure		
Recalling Sentences	The child imitates sentences presented by the examiner	Core Expressive Structure	Core Expressive Memory	Core Expressive Memory
Formulated Sentences	The child formulates a sentence about visual stimuli using a targeted word or phrase	Core Expressive Structure	Core Expressive Memory	Core Expressive Memory
Word Classes 1	The child chooses two related word and describes their relationship	5-7 Core 5-7 Content		
Word Classes 2	The child chooses two related word and describes their relationship	8 Receptive 8 Content	Core Receptive Expressive Content	Core Receptive Expressive
Sentence Structure	The child points to a picture that illustrates the given sentence	Receptive Structure		
Expressive Vocabulary*	The child identifies a pictured object, person, or activity	5-9 Content		
Word Definitions*	The child defines a word that is presented and used in a sentence		10-12 Content	Core Content
Understanding Spoken Paragraphs	The child responds to questions about orally presented paragraphs; questions target main idea, details, sequence, inferential, and predictive information	Supplemental	Content	Receptive Content
Sentence Assembly	The child produces two semantically/ grammatically correct sentences from visually and orally presented words/ groups of words		Supplemental	Content
Semantic Relationships	The child listens to a sentence and selects the two choices that answer a target question		Supplemental	Receptive Memory
Number Repetition* 1 and 2	The child repeats a series of numbers forward, then backwards	5-16 Working Memory		
Familiar Sequences* 1 and 2	The child names days of the week, counts backward, orders other information while being timed	5-16 Working Memory		
Rapid Automatic Naming	The child names colours, shapes, and colour-shape combinations while being timed	5-16 Supplemental		
Word Associations	The child names words in specific categories while being timed	5-16 Supplemental		
Phonological Awareness*	The child rhymes, segments, blends, identifies sounds and syllables in words and sentences	5-12 Supplemental		
Pragmatics Profile*	The examiner elicits information from a parent or teacher about the child's social language skills.	5-16 Supplemental		
Observational Rating Scales	Parent, teacher, and child each rate the child's classroom interaction and communication skills.	5-16 Supplemental		

* = New Subtest Core = Core Language Score; Structure = Language Structure index; Receptive = Receptive Language index; Memory = Language Memory index; Expressive = Expressive Language index; Working Memory = Working Memory index; Content = Language Content index; Supplemental = Supplemental subtest

Minimising Item Bias

Precautions were taken to ensure that *CELF-4* items are appropriate for a wide range of children from diverse cultural/linguistic/socioeconomic backgrounds. An expert panel including Speech and Language Therapists 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 ensure 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. The publisher 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 sub domains, more specific context-familiar items, and a greater appeal to children.

Scores Reported

CELF-4^{UK} provides a comprehensive look at a child'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^{UK}* 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^{UK}* index scores provide information about a child'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^{UK}*. It is a measure of general language ability that quantifies a child'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 child'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 children aged 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 children aged 9-16 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.

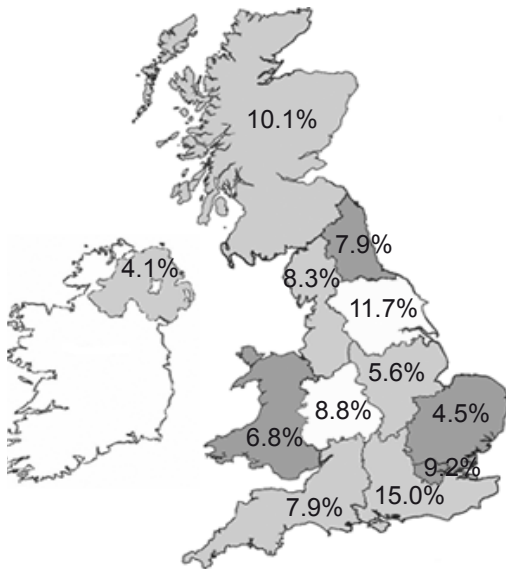
The UK Study and Standardisation

The UK standardisation project for *CELF-4^{UK}* provides a frame of reference for the use of *CELF-4* in the UK in the 5.0 to 16.11 age range. The validation project conducted at City University, London, combined 871 UK test administrations with the data generated by 2,650 concurrent US administrations to establish a set of UK normative reference points.

An Anglicisation process was also undertaken to ensure the *CELF-4^{UK}* was user-friendly for both child and practitioner. With the expertise of speech and language therapists, educational psychologists, researchers and specialist teachers in the UK, a small number of modifications were made. These included alternations to the picture items to reflect familiarity with certain

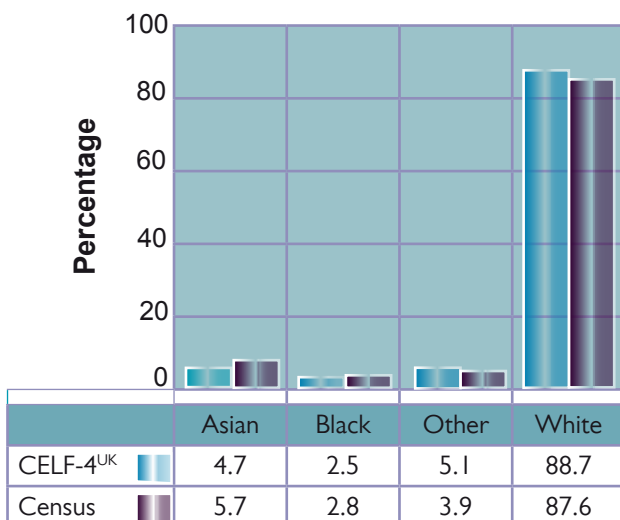
images, for example replacing a US style yellow school bus with a more British style red bus, and updating spelling differences such as 'colour' for 'color'. The standardisation project reflected a representative sample of children from each demographic group. The cells covered within the project included: 12 levels of geographic region, 2 levels of gender, 33 levels of age, 4 levels of race/ethnic group, and 5 levels of parental education levels. Data was gathered from the 2001 Census for geographic region, gender, race/ethnicity and parental education level. The standardisation project provided a sound framework for score interpretation, which clinicians can rely on to make clinical decisions. The figures below show details of the standardisation sample.

Region Demographics



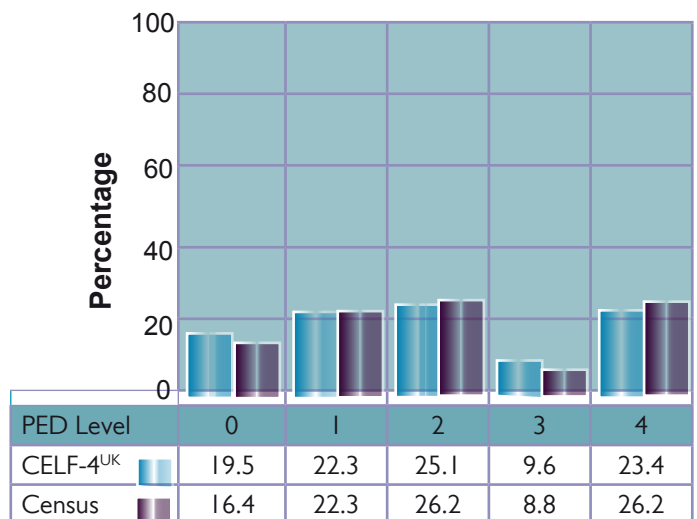
UK Region	Percentage	
	CELF-4 ^{UK}	Census
North East	7.9	4.6
North West	8.3	9.9
Yorkshire & Humberside	11.7	11.9
East Midlands	5.6	8.5
West Midlands	8.8	9.2
East of England	4.5	6.2
London	9.2	10.1
South East	15.0	16.9
South West	7.9	6.0
Wales	6.8	4.1
Scotland	10.1	9.3
Northern Ireland	4.1	3.3

Race/Ethnicity Breakout



47.5% of the standardisation sample is male and 52.5% is female.

Parental Education (PED) Level



Sampling is based on data from the population aged between 25 and 45 years.

Reliability and Validity Evidence

Extensive evidence of validity presented in the *CELF-4^{UK}* Examiner's Manual is based on test content, response processes, internal structure, relationships with other variables, and consequences of testing. Studies were conducted with children who had previously

been identified as having a language disorder, and with children diagnosed with mild autism, hearing impairment, and mental retardation (US data).

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 children classified as having language disorder (sensitivity) and

the percentage of children without a 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^{UK}* subtests is similar to *CELF-3^{UK}*, minimising 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 the

new edition takes into account regional and cultural patterns or variations that reflect differences from mainstream English that may be present in a child's language.

Summary

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

CELF-4^{UK} offers you a variety of methods, to obtain the information you need to make the most appropriate clinical decisions.

The test has a CL2 qualification code, and can be administered by speech and language therapists and educational psychologists. The *CELF-4^{UK}* takes approximately 30 to 60 minutes to administer.

Also available is the *CELF-Preschool 2^{UK}* which measures a broad range of expressive and receptive language

skills in young children from age 3 to 6 years. The test consists of seven norm-referenced subtests in:

- Sentence Structure
- Word Structure
- Expressive Vocabulary
- Concepts and Following Directions
- Recalling Sentences
- Basic Concepts
- Word Classes.

The following supplementary subtests can be used to yield criterion scores or percentile ranges and additional information about the child's skills outside of the testing situation:

- Recalling Sentences in Context
- Phonological Awareness
- Pre-Literacy Rating Scale
- Descriptive Pragmatics Profile.



The *CELF-4^{UK}* was used by The Communication Trust for the Hello, Talk of the Town Project 2011-2012