CELF®-5 Case Study

The following case study illustrates interpretation of CELF-5 Metalinguistics test and Index scores. This case study presents interpretation of CELF-5 Metalinguistics test and Index scores in conjunction with CELF-5 test and Index scores.

Ana, age 11:1

History and Referral

Ana is age 11:1 and in the sixth grade. She was born in Puerto Rico and attended the first semester of her kindergarten year in Puerto Rico. She moved to the United States with her parents six years ago. Upon arrival, Ana was identified as an English language learner and placed in a kindergarten classroom with ESL support. Academic instruction in first through third grade was offered in English only, with ESL support as necessary. By the end of the third grade, the student was dismissed from the ESL program after test scores indicated near native proficiency in English in listening, speaking, reading, and writing.

Ana is considered to be a sequential language learner (i.e., she learned Spanish before learning English). Her parents report that she speaks most often in English, but is able to understand simple commands and questions in Spanish and use common phrases (e.g., "ya voy"/"coming," "mami mira"/"mom look") and simple sentences. Ana's parents report that they speak both English and Spanish at home now; however, they report that they spoke Spanish most frequently while living in Puerto Rico. Currently, the student's exposure to Spanish is limited to the home and when visiting her family in Puerto Rico. The student's parents do not report any history of language or academic concerns.

Ana does not currently receive academic or language support, and to date, she has passed all required state assessments. However, the school intervention team has referred her for an assessment of her language skills; her English/Language Arts teacher has been concerned that she is not progressing academically. She is having difficulties comprehending and analyzing textbook material, making inferences, and understanding figurative language. Because the student has been speaking English at home and at school almost exclusively for more than 5 years and not receiving ESL support, it was determined that the initial evaluation should be conducted only in English.

Re-Evaluation Questions

The student has been referred for a full speech and language evaluation to determine the following:

1. Does the student manifest a language impairment or a language difference?
2. If a language impairment is present, what are the patterns of strengths and weaknesses?
3. What implications does the profile of strengths and weaknesses have on the student's ability to access her education?
4. What intervention recommendations can be derived from the student's profile?

Test Results

Because the student is 11:1 and has never received a speech and language evaluation, the speech-language pathologist decided to administer CELF-5 and CELF–5 Metalinguistics, so that both basic language skills and more advanced language competence can be assessed. The following scores were obtained from the administration of CELF–5.

An Overview of Ana's CELF-5 Scores

Core Language and Index Score	Standard Score	Confidence Interval	(90% Level) Percentile Rank	Confidence Interval
Core Language Score	82	75–89	12	5–23
Receptive Language Index	80	73–87	9	4–19
Expressive Language Index	85	78–92	16	7–30
Language Content Index	85	78–92	16	7–30
Language Memory Index	89	82–96	23	12–39

Test Scores	Scaled Score	Confidence Interval	(90% Level) Percentile Rank	Confidence Interval
Word Classes	9	7–11	37	16–63
Following Directions	11	9–13	63	37–84
Formulated Sentences	8	6–10	25	9–50
Recalling Sentences	6	4–8	9	2–25
Understanding Spoken Paragraphs	7	5–9	16	5–37
Word Definitions	7	5–9	25	5–37
Sentence Assembly	9	7–11	37	16–63
Semantic Relationships	5	3–7	16	1–16
Pragmatics Profile	10	9–11	50	37–63
Reading Comprehension	6	3–9	9	1–37
Structured Writing	6	3–9	9	1–37

Ana's Core Language Score of 82 (confidence interval 75–89) indicates performance in the borderline/marginal/at-risk range, as does the Receptive Language Index score of 80 (confidence interval 73–87). The Expressive Language Index sore of 85 (confidence interval 78–92) is at the lower limit of the average range. The difference of 5 standard score points between the Receptive Language Index and Expressive Language Index scores is not significant. The student's Language Content Index score of 85 (confidence interval 78–92) is at the lower limit of the average range, whereas the Language Memory Index score of 89 (confidence interval 82–96) is in the average range. The difference of 4 standard score points between the Language Content Index and Language Memory Index scores is not significant. Ana's profile of Index scores indicates basic language skills in the borderline/marginal/at-risk range that may interfere with her ability to progress academically in her current educational setting.

The test scaled scores range from 5 (Semantic Relationships) to 11 (Following Directions). The Following Directions score represents an area of relative strength. Areas of weakness include difficulty with defining vocabulary (Word Definitions), interpreting relationships between words (Semantic Relationships), and responding to questions that require the student to make inferences, predictions, or determine the main idea (Understanding Spoken Paragraphs and Reading Comprehension). In addition, Ana has difficulty writing brief paragraphs. The overall performance suggests difficulty in the area of metalinguistic language abilities.

Test Results

The speech-language pathologist administered CELF-5 and Ana's scores were as follows:

An Overview of Ana's Metalinguistics Scores

Core Language and Index Score	Standard Score	Confidence Interval	(90% Level) Percentile Rank	Confidence Interval
Total Metalinguistics Index	77	69–85	6	2–16
Meta-Pragmatics Index	80	68–92	9	2–30
Meta-Semantics Index	76	68–84	5	2–14

Test Scores	Scaled Score	Confidence Interval	(90% Level) Percentile Rank	Confidence Interval
Metalinguistics Profile	7	6–8	16	9–25
Making Inferences	6	3–9	9	1–37
Conversation Skills	7	5–9	16	5–37
Multiple Meanings	5	3–7	5	1–16
Figurative Language	6	4–8	9	2–25

Ana's Total Metalinguistics Index score of 77 (confidence interval 69–85) indicates language performance in the low/moderate range of severity, as does the Meta-Semantics Index score of 76 (confidence interval 68–84). The Meta-Pragmatics Index score of 80 (confidence interval 68–92) is in the borderline/marginal/at-risk range. The difference of 4 points between the Meta-Semantics Index and the Meta-Pragmatics Index scores is not significant, nor is it uncommon in the normative sample. The overall profile of Ana's Index scores indicates that she functions in the low/moderate range of metalinguistic performance. This may be interfering with the student's ability to comprehend classroom texts, which require making inferences and interpreting ambiguous and non-literal language.

Ana's test scaled scores range from 5 (Multiple Meanings) to 7 (Conversation Skills and Metalinguistics Profile); the latter scores indicate areas of relative strengths for Ana. Her Making Inferences scaled score (6) indicates problems in identifying, understanding, and creating meaning from implied information in spoken and written discourse. Her Multiple Meanings scaled score (5) indicates problems in detecting and interpreting lexical and structural ambiguities. Finally, the Figurative Language scaled score (6) indicates difficulty in comprehending non-literal language.

To ensure that Ana's language performance on CELF-5 and CELF-5 Metalinguistics was not primarily due to the fact that her first/native language was Spanish, a bilingual speech-language pathologist was asked to review the results and spend time observing and speaking with Ana. Upon doing so, the speech-language pathologist observed that Ana used only English with her friends, struggled to produce grammatically correct sentences in Spanish, and could not converse fluently in Spanish. These non-standardized procedures indicated that Ana demonstrated the ability to communicate fluently and effectively with others in English, and did not show comparable performance in Spanish. Therefore, the bilingual speech-language pathologist considered the standardized test results (conducted in English) to be a valid reflection of Ana's overall language ability, and that standardized assessment in Spanish was not appropriate.

Recommendations and Follow-up

Student performance measures were obtained from a combination of standardized and non-standardized measures (e.g., case history, student records, observations, norm-referenced tests, and parent and teacher interviews) in English and Spanish. Test results indicated that although Ana was exposed to Spanish at home, she was primarily an English speaker. Her profile of CELF-5 Index scores indicates basic language skills in the borderline/marginal/at-risk range. In addition, her CELF-5 Metalinguistics Index and test scores indicate that she has not achieved the level of linguistic competence expected for her age. Therefore, as the complexity of academic material increases, Ana will experience more difficulty understanding the academic material.

If Ana had been able to communicate more fluently in Spanish (e.g., carry on a conversation and demonstrate minimal grammatical errors), additional testing in Spanish would have been recommended to measure the student's metalinguistic ability in Spanish. However, because Ana's Spanish language skills were limited, additional standardized testing was not recommended.

Ana has been exposed to English as a Second Language for about six academic years. According to Cummins (1992), second language learners may take between five to seven years to develop Cognitive Academic Language Proficiency (CALP), the language necessary to succeed in the typical learning environment. Other researchers believe that it may take up to ten years for CALP to develop (Thomas & Collier, 2002). Academic language is context reduced and cognitively demanding. Consequently, tasks involving understanding of idiomatic expressions, sarcasm, jokes, and multiple meanings may be cognitively demanding for the student if CALP has not been fully developed. In addition to the information about the development of CALP, a small study (n = 33) done during standardization of CELF-5 Metalinguistics reports that mean test scores are slightly lower for non-native speakers of English when matched to native English-speaking peers. This means that CELF-5 Metalinguistics test scores need to be interpreted with caution, especially when educational placement decisions are being made. In any case, the test results suggest that Ana may benefit from language tasks explicitly targeting semantic development, understanding and use of idioms, and identification of figurative language (e.g., similes, metaphors, sarcasm) in written or orally presented materials within the classroom setting.

CELF 5
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