History and Referral

Alina, age 6:3, is a Hispanic female who was referred for a speech sound evaluation due to her teacher’s concerns about her speech intelligibility and the negative impact it has on Alina’s academic and social success. Alina speaks Mexican Spanish with her family at home. Alina speaks Spanish and English fluently with her teacher and peers at school. Alina’s teacher reports that Alina inconsistently produces sounds in single words and sentences in both languages. That is, Alina seems able to produce all sounds correctly, but often confuses sounds, such as t/s, l/r, and l/r when she speaks. Alina is aware that her classmates have difficulty understanding her, so she avoids speaking and does not volunteer during class discussions or participate in group projects. Alina seldom speaks with her classmates, limiting her interactions to two friends.

Referral Questions

1. Does Alina have a speech sound disorder?
2. If a speech sound disorder is present, is there a consistent pattern of phoneme production for each consonant and consonant cluster sound in the various positions (i.e., prevocalic, intervocalic, postvocalic) within syllables?
3. What recommendations can be derived from Alina’s speech sound profile?
Alina’s Performance on the Goldman-Fristoe Test of Articulation, Third Edition, Spanish

Test Results

The bilingual SLP at Alina’s school administered the GFTA™-3 Spanish Sonidos-en-palabras and Sonidos-en-oraciones tests. Alina’s GFTA–3 Spanish standard scores are presented in Table A, followed by her Phonetic Error Analysis.

Table A  Case Study: Alina, 6:3 GFTA–3 Spanish Standard Scores

<table>
<thead>
<tr>
<th>GFTA–3 Spanish tests</th>
<th>Standard score</th>
<th>Confidence interval (90%)</th>
<th>Percentile rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonidos-en-palabras</td>
<td>67</td>
<td>63–75</td>
<td>1.4</td>
</tr>
<tr>
<td>Sonidos-en-oraciones</td>
<td>66</td>
<td>62–73</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Alina’s Sonidos-en-palabras standard score is in the very low/severe range. Her Sonidos-en-oraciones standard score is also in the very low/severe range. The Phonetic Error Analysis of Alina’s responses on the Sonidos-en-palabras test (see Figure A) indicates that she has mastery of stop (i.e., /b/, /d/, /p/, /t/, /k/, /g/) and nasal (i.e., /m/, /n/, /ɲ/) sounds in all possible syllable positions. Alina substitutes t/s, p/f, l/r, and l/ɾ in consonant clusters and in intervocalic and postvocalic syllable positions. Alina omitted /s/ in the postvocalic position of syllables.

The Sonidos-en-oraciones results indicate that Alina demonstrates the same sound production errors in connected speech as she does in single word productions. Her intelligibility is judged to be poor.

Alina was administered portions of the Estimulación de consonantes y sinfonas task to determine if she was able to imitate the sounds children her age and sex typically have mastered. The results are indicated in Figure B.
Alina’s Performance on the 
Goldman-Fristoe Test of Articulation, Third Edition, Spanish

Alina was able to imitate the /s/ and /f/ sounds in all syllable and word contexts but had difficulty imitating them in sentences. Alina was not able to imitate /r/, /ɾ/, and R clusters presented to her in syllable contexts.

Alina was also administered the GFTA™-3 (Goldman Fristoe Test of Articulation™, Third Edition) to measure her production of English consonants and consonant clusters. Alina's GFTA-3 standard scores are presented in Table B, followed by her Phonetic Error Analysis.

### Table B  Case Study: Alina, Age 6:3 (GFTA-3, English Edition) Standard Scores

<table>
<thead>
<tr>
<th>GFTA–3 tests</th>
<th>Standard score</th>
<th>Confidence interval (90%)</th>
<th>Percentile rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sounds-in-Words</td>
<td>44</td>
<td>42–51</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Sounds-in-Sentences</td>
<td>64</td>
<td>60–72</td>
<td>1</td>
</tr>
</tbody>
</table>

Alina's Sounds-in-Words standard score is in the very low/severe range. Her Sounds-in-Sentences standard score is in the very low/severe range. The Phonetic Error Analysis, based upon Alina’s responses on the Sounds-in-Words test, indicates that Alina has mastered all stop and nasal sounds in all word positions. Alina substitutes /s/, /ɾ/, and /f/ in all word positions (i.e., initial, medial, final). She has difficulty producing words that contain /r/ and consonant clusters. Alina produces the fricatives /v/, /ð/, and /ɒ/ using /b/, /d/, and /t/, which are considered dialectal variations and neither marked nor scored as errors. See Figure C.

The Sounds-in-Sentences results indicate that Alina demonstrates the same sound production errors in connected speech as she does in single word productions. Her intelligibility is judged to be poor.

Alina was administered portions of the Stimulability task to determine if she was able to imitate the sounds children her age and sex typically have mastered. The results are indicated in Figure D.

![Figure C](https://example.com/figure-c.png)

**Figure C** Case Study: Alina, 6:3 GFTA–3 (English Ed.) Phonetic Error Analysis

![Figure D](https://example.com/figure-d.png)

**Figure D** Case Study: Alina, 6:3 GFTA–3 (English Ed.) Stimulability
Alina was able to imitate the /s/ and /f/ sounds in syllables and word contexts but had difficulty imitating them in sentences. Alina was not able to imitate /r/ or /ɾ, s/ consonant clusters presented to her in word contexts.

Results of the speech sound assessment in both languages, along with her history, provides evidence that supports a diagnosis of a speech sound disorder.

**Recommendations and Follow-up**

The concerns of Alina's teacher were confirmed by the GFTA–3 Spanish and GFTA–3 test results. Alina presents with a speech sound disorder and would benefit from speech sound intervention in both languages. Because the chances of improving an individual's speech intelligibility increase when treating sounds with similar error rates in both languages (Goldstein & Gildersleeve-Neumann, 2012), goals and objectives should target the correct production of /s/ and /f/ in connected speech. Goals also should target the correct production of English alveolar approximant /r/ due to similarities in the production of the Spanish alveolar tap ɾ (e.g., /ɾ i/). Subsequently, goals should target error patterns that are exhibited in both languages with unequal frequency (i.e., /ɾ ɾ/).