

Goldman-Fristoe Test of Articulation, Third Edition, Spanish



Alina, age 6 years, 3 months

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/\bar{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

GFTA-3 Spanish tests	Standard score	Confidence interval (90%)	Percentile rank
Sonidos-en-palabras	67	63–75	1.4
Sonidos-en-oraciones	66	62–73	1.2

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/, /n/) sounds in all possible syllable positions. Alina substitutes t/s, p/f, $1/\overline{r}$, and $1/\overline{r}$ in consonant clusters and in intervocalic and postvocalic syllable positions. Alina omitted $1/\overline{r}$ 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 sinfones 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.

Figure A Case Study: Alina, 6:3 GFTA-3 Spanish Phonetic Error Analysis

		Sonidos-en-palab	ras Phonetic Erro	r Analysis
		SINGL	E CONSONANTS	
		Prevocalic	Intervocalic	Postvocalic
	р	1 20	18 42	
as	b	4 7		
clush	t	8 15 36 41 45 45 15 37 43	1 10 11 16 34 40 42 48	
Stops/oclusivas	d	15 37 43 47 47		
	k	5 17 35 38	4 40	
	g	11 48		
sales	m	2 39 47	5 33 50	
ıls/na	n	3 19	36 39	15 16 21 35 37 39 43 47
Nass	'n		7 46	
ants/ ntes	β		9 29 32 38	
Approximants/ Nasals/nasales aproximantes	ð		36 49	
축 학	γ	PP	13 45	
	f	W 28 .	nP _M P	
Fricatives/ fricativas	s	the fig ts	きままな	2 4 K
Frica	х	38+42+ 13 44	25 41	2 - /-
	į	9 43	8 23 38 49	
Affricate/ africada	ţſ	14 40	6 19	
	1	6 21	22 40	12 24
Liquids/liquidas	ř	6 21 18 25 199	20 18	
Liquid	ſ		20 20 20 20 20 20 20 20	16 36 45 41
		R	AND <i>L</i> CLUSTERS	
		Prevocalic	Intervocalic	Postvocalic
	bl	35		
	br	38 Pl		
	fl	²⁶ £1		
	fr	26 37 fl		
	gl	32		
	gr	31gl		
	kl	29	14	
	kr	₂₅ kl		
	pl	34		
	pr	50 Pl		
	tr	at t		

Figure B Case Study: Alina, 6:3 GFTA–3 Spanish Estimulación de consonantes y sinfones

	E	stimu	_					nes	
				SINGLE	CONSC	DNANTS	5		
	Pre-	Syllable Inter-	Post-	Pre-	Word Inter-	Post-	Pre-	Sentence Inter-	Post-
	vocalic	vocalic	vocalic	vocalic	vocalic	vocalic	vocalic	vocalic	vocalic
р									
b									
t									
d									
k									
g									
m									
n									
ŋ									
β									
ð									
γ									
f	X.	X. X.		X.	X.		XX	XX	
s	X.	X.	✓	X.	X.	✓	XX	XX	XΧ
х									
į									
ţſ									
T									
ř	XX	XX							
ſ		XX	XX						
				AND L		ERS			
	_	Syllable			Word			Sentence	
	Pre- vocalic	Inter- vocalic	Post- vocalic	Pre- vocalic	Inter- vocalic	Post- vocalic	Pre- vocalic	Inter- vocalic	Post- vocalic
bl									
br	XX								
fl	ļ.,								
fr	XX								
gl									
gr	XX								
kl									
kr	XX								
pl									
pl	XX XX								

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 $/\bar{r}$ /, /c/, 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

GFTA-3 tests	Standard score	Confidence interval (90%)	Percentile rank
Sounds-in-Words	44	42–51	<0.1
Sounds-in-Sentences	64	60–72	1

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 t/s, d/z, and p/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 /θ/ 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 Case Study: Alina, 6:3 GFTA-3 (English Ed.) Phonetic Error Analysis

		Sounds-in-Words	s Phonetic Error An	alysis				
		Si	NGLE CONSONANT	S				
		Initial	Medial	Final				
	р	3 29 50	6	4 26				
	b	5	10 39	16				
S.	t	10 28 36 51	23 39	18 46				
Stops	d	2 8	15	21 55				
	k	4 48	11 34 48	8 9 54				
	g	7 23	28 30	3 44				
<u>ss</u>	m	11	12 50	17 32 34				
Nasals	n	19	52	24 45 53 60				
_	ŋ	PPP	11 30	22 31 40				
	f	P P P	34 P	22 31 40 P ₁₉ P ₃₆ P ₄				
	V	34 39	35 60	59				
sav	θ	32		51				
Fricatives	ð	46	43_L _L	_ + + +				
Ξ	s	36 t 50 t	⁴³ † ≠	y 56 56				
	z	d≆ #d	₽d	7 7 5 5 -				
	ſ	20 35	40	13				
sates	tſ	25 49	36	14				
Affricates	dz	38 56	39 50					
	i.	24 47	33 42	6 10 29 35 39				
Liquids	L St. St	W W X ×	₂₆ W	6 10 29 35 39 				
- 10	w	14 16		0000				
Glides/ Glottals	j	42	34					
5 5 5	h	1 12						
		CC	NSONANT CLUSTE	RS				
			OLOGILIO					
		Initial	Medial	Final				
	bl							
	br	BW	21 bw					
	dr	ndw	7. 000					
	fr	of flat						
	gl	# fw						
	gr	46 gW						
	kr	5 kw						
	kw	9						
	nt			33				
	pl	18						
	pr	5¢ PW						
	sl	3/						
	sp	1/2 P						
	sp	- 26 P - 58						
	SW	92 W						
	tr	54 tw						
	u	7. I VV						

	Sound	15-111-WOI U	N LIIUI AI	alysis	
B. 3.	r	εr	ar	or	br
12 15 36 30 36 48	21 26 56	ø	£3 €6	1	29 ps ps
dr	fr	gr	kr	pr	tr
n	94	46	5∕8	\$2	A

Figure D Case Study: Alina, 6:3 GFTA-3 (English Ed.) Stimulability

				Stimu	ılability				
	SINGLE CONSONANTS								
		Syllable		Word			Sentence		
	Initial	Medial	Final	Initial	Medial	Final	Initial	Medial	Final
р									
b									
t									
d									
k									
g									
m									
n									
ŋ f	_	/	✓	/	/	/	V V	XX	V V
v	٧	V	V	V	V	٧	~~	~~	~~
θ									
ð									
s	X V	X.	X 🗸	X.	X.	X 🗸	XX	XX	XX
z	XX	XX	XX	/	/	/	,,,,	,,,,	,,,,
ſ	/4/4	/4/4	/-/-						
3									
ţſ									
dz									
-1	., ,		., ,						
La.a	χ.	X.	X.	XX	XX	XX			
W									
j									
h			_						
		0.11.11	С	ONSON	IANT CI	LUSTER	IS		
	Initial	Syllable Medial	Final	Initial	Word	Final	Initial	Sentence Medial	Final
bl	initiai	Mediai	Finai	initiai	mediai	Finai	initiai	wiediai	Finai
				ı					
br	vv	vv							
br	XX	XΧ							
dr	XX	XX XX							
	XX XX	XX XX							
dr dz	XX XX	XX XX	XX						
dr dz st		XX XX	XX						
dr dz st	XX	XX XX	XX						
dr dz 3t erz fr		XX XX	XX						
dr dz st erz fr gl gr kl	XX XX	XX	XX						
dr dz st erz fr gl gr kl	XX	XX	XX						
dr dz st erz fr gl gr kl kr	XX XX	XX	XX						
dr dz st ez fr gl gr kl kr kw	XX XX	XX	XX						
dr dz st ez fr gl gr kl kr kw ntf	XX XX	XX	XX						
dr dz st esz fr gl gr kl kr kw ntf ndg nt	XX XX	XX	XX						
dr dz st erz fr gl gr kl kr kw ntf ndg nt	X	ŽŽ	XX						
dr dz st erz fr gl gr kl kr kw ntf ndg nt pl	XX XX	ŽŽ	XX						
dr dz st erz fr gl gr kl kr kw ntf ndg nt	X	ŽŽ.	XX						
dr dz st ez fr gl gr kl kr kw ntf ndz nt pl pr	XX XX XX	ŽŽ.	XX						
dr dz st ez fr gl gr kl kr kw ntf ndz nt pl pr ps sk	XX XX XX XX	XX	XX						
dr dz st erz fr gl gr kl kr kw ntf ndz nt pl pr ps sk sl	XX XX XX XX	XX	XX						
dr dz st erz fr gl gr kl kr kw ntf ndz nt pl pr ps sk sl sn	XX XX XX	XX	XX						
dr dz st ez fr gl gr kl kr kw ntf ndz nt pl pr ps sk sl sn	XX XX XX XX	XX	XX						
dr dz st erz fr gl gr kl kr kw ntf nd3 nt pl pr ps sk sl sn sp	XX XX XX XX XX	XX	XX						
dr dz st esz fr gl gr kl kr kw ntf nds nt pl pr ps sk sl sn sp spl st	XX XX XX XX	**	XX						

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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 /r, 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 r (e.g., / r /). Subsequently, goals should target error patterns that are exhibited in both languages with unequal frequency (i.e., / \bar{r} /).

