



Fostering Dual Language Learners' Classroom Conversations: Home Language Use and Code-Switching Across Instructional Contexts

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Ms. Luz Yesenia, how does daddy go to work?

Yesenia *Mi papá va con... en el bus.* [My dad goes with... on the bus.]

Ms. Luz *¿Tu papá va en el bus?* [Your dad goes on the bus?]

Yesenia's dad goes on the bus.

Yesenia *Sí, mi papá va en el bus de su trabajo y va... y va hasta México.*
[Yes, my dad goes on the bus from his work and goes... and goes all the way to Mexico.]

Background



- Quantity and quality of **adult input** -> child language skills (e.g. Huttenlocher, 2010; Rowe, 2012; Hoff, 2003)
- For **dual language learners (DLLs)**, **child output** in each language -> expressive vocabulary outcomes (Bohman et al., 2010; Hammer et al., 2012; Ribot et al., 2017)
- **Output hypothesis** in second language acquisition (Swain, 2005)

- How can teachers foster DLLs' participation in classroom conversations?
- Can teachers' flexible use of both languages promote DLLs' active language use?



Code-Switching in Adult Input and Child Output

Code-switching

- Alternation between languages within a single conversation (Yow, et al., 2016)
- Rule-governed feature of language use in bilingual communities (e.g., Poplack, 1980)



Within-Turn Code-switches

Do you remember what's the bear's job? *Cuál fue el trabajo?* [What was the job?]
How about *otra vaca*? [How about another cow?]



Cross-Speaker Code-switches



Student: *Yo fui a Walmart.* [I went to Walmart.]
Teacher: Oh, you went to Walmart?

- Mixed evidence on role of code-switching in adult input (Byers-Heinlein, 2013; Bail et al., 2015)
- DLLs code-switch to fill lexical gaps, but increasingly sensitive to social norms and language status (Halpin & Melzi, 2018; Montanari et al., 2019; Smolak et al., 2020)

Supporting DLLs in Preschool Classrooms



Small group instruction

- Opportunities for child talk -> language and literacy skills (Connor, Morrison and Slominski, 2006; Lowenthal, 1981; Morrow & Smith, 1990)
- DLLs make greater gains in **English** (Farver et al., 2009) and **Spanish** (Landry et al., 2019; Restrepo et al., 2010)



Use of the home language for instruction

- Social emotional development (Chang et al., 2007)
- Academic skills (Burchinal et al., 2012)



Less is known about role of code-switching

- Functions of code-switching with older students (Ferguson, 2009)
 - Constructing and transmitting knowledge
 - Classroom management
 - Interpersonal relations
- Singaporean heritage language preschool classrooms (Sun et al., 2020)
 - Habitual code-switches to English and back
 - Managing children's language use (e.g. asking them to translate a word to heritage language)

The Current Study

10 video-recorded,
transcribed lessons (from a
larger PD intervention study)



Whole Group (WG)



DLLs Small Group (SG)

2 Head Start Centers



47-53% Spanish-speaking DLLs



93-100% Spanish-speaking DLLs

Lead Teachers

5 Teachers



Native Spanish Speakers

25 target DLL
students



Research Questions

1. How do teachers' language practices differ by group context (whole group vs. DLLs small group)?
2. How do DLL students differ in their verbal participation across group contexts?

Transcription and Coding using CHAT/CLAN

Tokens per minute

Ms. Luz Look at your... *Mira las llantas de tu carrito. Está haciendo muchas marquitas.* [Look at the tires of your car. It is making lots of little tracks.] Is Nicole's car making the same ones?

Yesenia No.

Ms. Luz No, right! How about Brandon? Brandon, does your little car making the same lines as umm Yesenia?

Brandon No.

Ms. Luz Why not? why not? Brandon, ¿por qué no está haciendo las mismas marcas? [Brandon, why is it not making the same tracks?]

Brandon Because they are big ones.

$$\frac{\text{total number of words}}{\text{lesson duration in min.}}$$

Brandon = 6 tokens

Transcription and Coding using CHAT/CLAN

Tokens per minute

Mean Length of Turn (MLT)

Ms. Luz Look at your... *Mira las llantas de tu carrito. Está haciendo muchas marquitas.* [Look at the tires of your car. It is making lots of little tracks.] Is Nicole's car making the same ones?

Yesenia No.

Ms. Luz No, right! How about Brandon? Brandon, does your little car making the same lines as umm Yesenia?

Brandon No.

Ms. Luz Why not? why not? Brandon, ¿por qué no está haciendo las mismas marcas? [Brandon, why is it not making the same tracks?]

Brandon Because they are big ones.

$$\frac{\text{total number of words}}{\text{number of turns}}$$

Brandon = 6 tokens/2
turns = MLT of 3

Transcription and Coding using CHAT/CLAN

Tokens per minute

Mean Length of Turn (MLT)

Percent Spanish Use

Ms. Luz Look at your... *Mira las llantas de tu carrito. Está haciendo muchas marquitas.* [Look at the tires of your car. It is making lots of little tracks.] Is Nicole's car making the same ones?

Yesenia No.

Ms. Luz No, right! How about Brandon? Brandon, does your little car making the same lines as umm Yesenia?

Brandon No.

Ms. Luz Why not? why not? Brandon, *¿por qué no está haciendo las mismas marcas?* [Brandon, why is it not making the same tracks?]

Brandon Because they are big ones.

Spanish tokens

Total tokens

Ms. Luz = 18 Span
tokens/45 total tokens
= 40% Spanish

Transcription and Coding using CHAT/CLAN

Tokens per minute

Mean Length of Turn (MLT)

Percent Spanish Use

Within-Turn Code-switches

Ms. Luz Look at your... *Mira las llantas de tu carrito. Está haciendo muchas marquitas.* [Look at the tires of our car. It is making lots of little tracks.] Is Nicole's car making the same ones?

Yesenia No.

Ms. Luz No, right! How about Brandon? Brandon, does your little car making the same lines as umm Yesenia?

Brandon No.

Ms. Luz Why not? why not? Brandon, ¿por qué no está haciendo las mismas marcas? [Brandon, why is it not making the same tracks?]

Brandon Because they are big ones.

Ms. Luz = 3 Within-Turn Code-Switches

Transcription and Coding using CHAT/CLAN

Tokens per minute

Mean Length of Turn (MLT)

Percent Spanish Use

Within-Turn Code-switches

Cross-speaker Code-switches

Ms. Luz Look at your... *Mira las llantas de tu carrito. Está haciendo muchas marquitas.* [Look at the tires of your car. It is making lots of little tracks.] Is Nicole's car making the same ones?

Yesenia No.

Ms. Luz No, right! How about Brandon? Brandon, does your little car making the same lines as umm Yesenia?

Brandon No.

Ms. Luz Why not? why not? Brandon, ¿por qué no está haciendo las mismas marcas? [Brandon, why is it not making the same tracks?]

Brandon Because they are big ones.

Brandon = 1 Cross-Speaker Code-Switch

Coding the Function of Teachers' Within-Turn Code-Switches

Meaning Making support

Why not? why not? *Brandon, ¿por qué no está haciendo las mismas marcas?* [Brandon, why is it not making the same tracks?]

Las alitas. The wings. Right? You can do the wings with this.

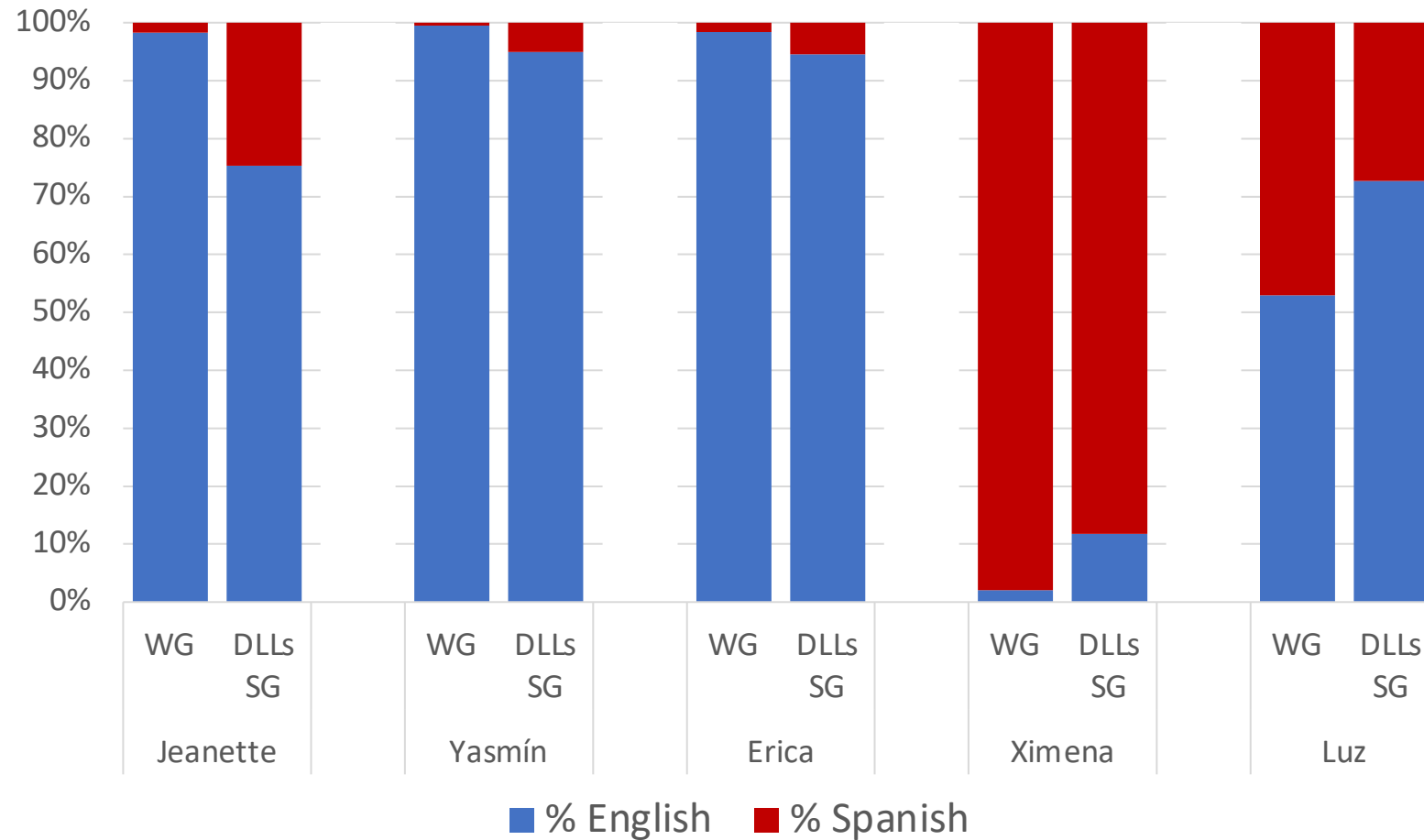
Social-Emotional / Behavioral support

Did you solve the problem?
¿A ver Sarita qué pasó? [Let's see, Sarita, what happened?]

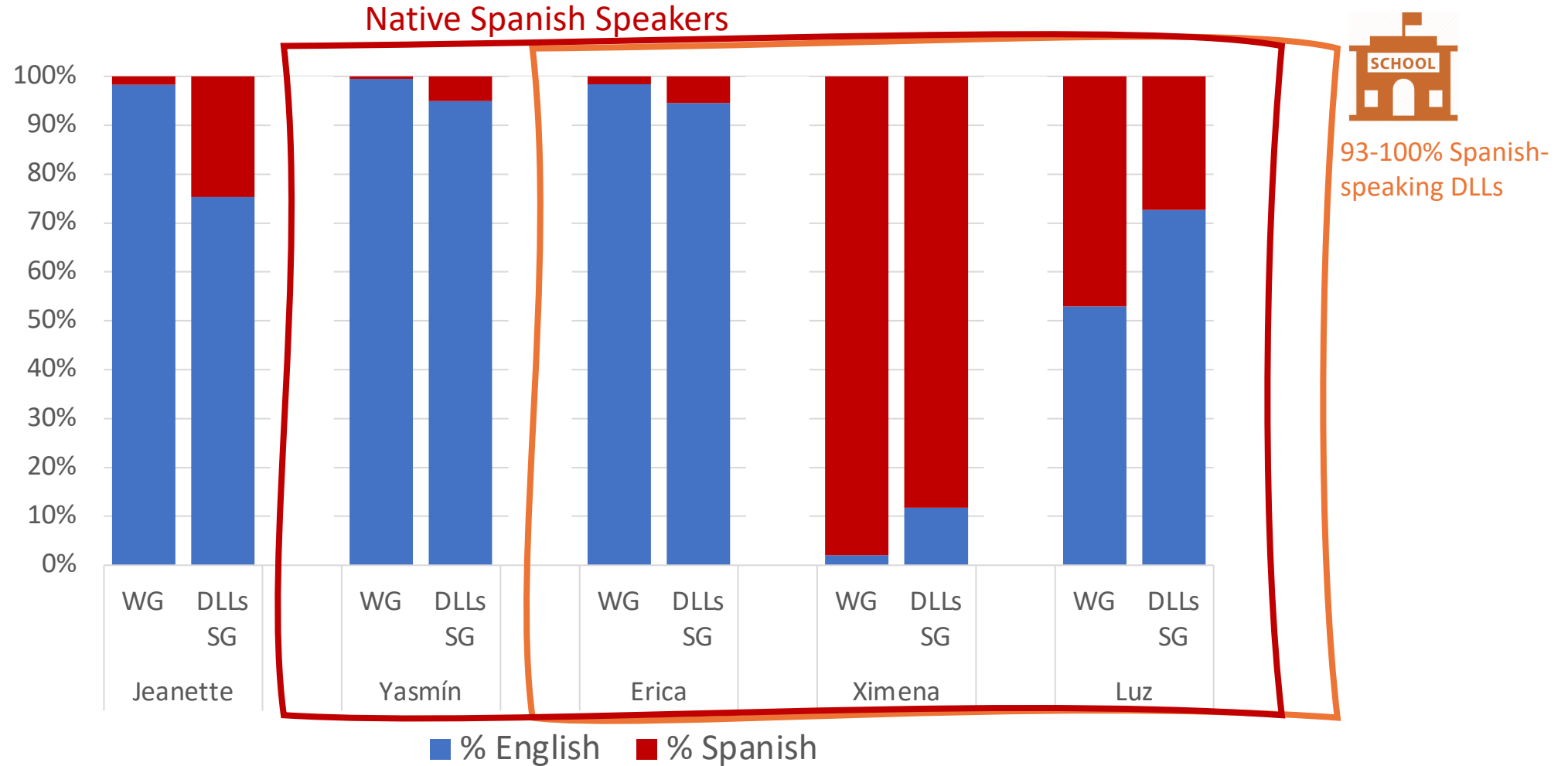
So today look at what you are going to do, César. *Escucha.* [Listen.] Ready?

RQ 1: How do teachers' language practices
differ by group context
(WG vs. DLLs SG)?

Teachers' use of English and Spanish in WG vs. DLLs SG



Teachers' use of English and Spanish in WG vs. DLLs SG



Teacher Code-Switching in **WG** vs. **DLLs SG**

All 5 teachers code-switched more frequently in DLLs SG



Within-Turn Code-Switches

12.2 in **WG** (range 3-28) vs.
27.2 in **DLLs SG** (range 11-41)



Cross-Speaker Code-Switches

2.4 in **WG** (range 0-5) vs.
9.4 in **DLLs SG** (range 4-20)

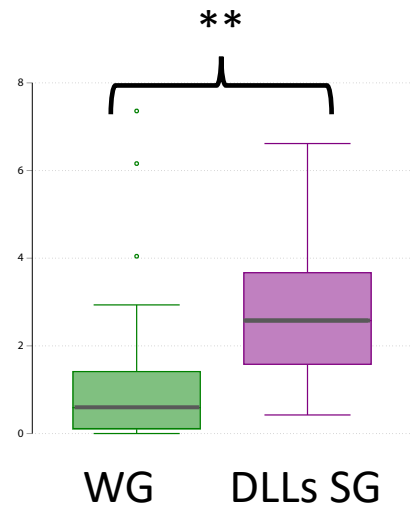
Teachers code-switched to support meaning making more than for social-emotional and behavioral functions, especially in DLLs SG

59% of **WG** code-switches supported meaning-making (range 43%-71%) and
69% of **DLLs SG** code-switches supported meaning-making (range 41%-100%)

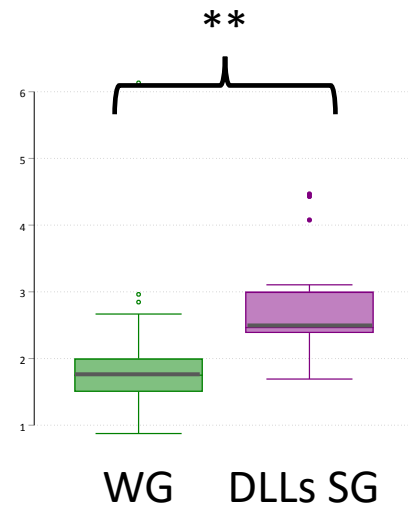
RQ 2: How do DLL students differ in their verbal participation across group contexts (WG vs. DLLs SG)?

Comparing DLLs' language use in WG and DLLs SG

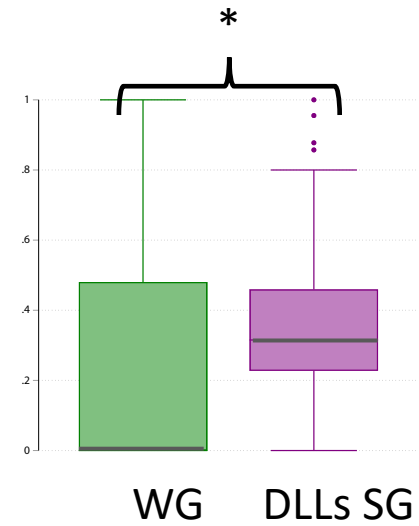
Word Tokens per Minute



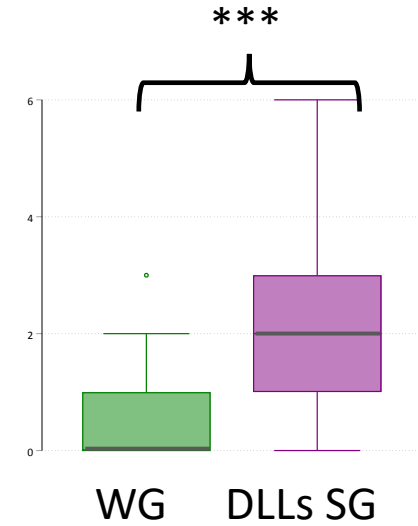
Mean Length of Turn



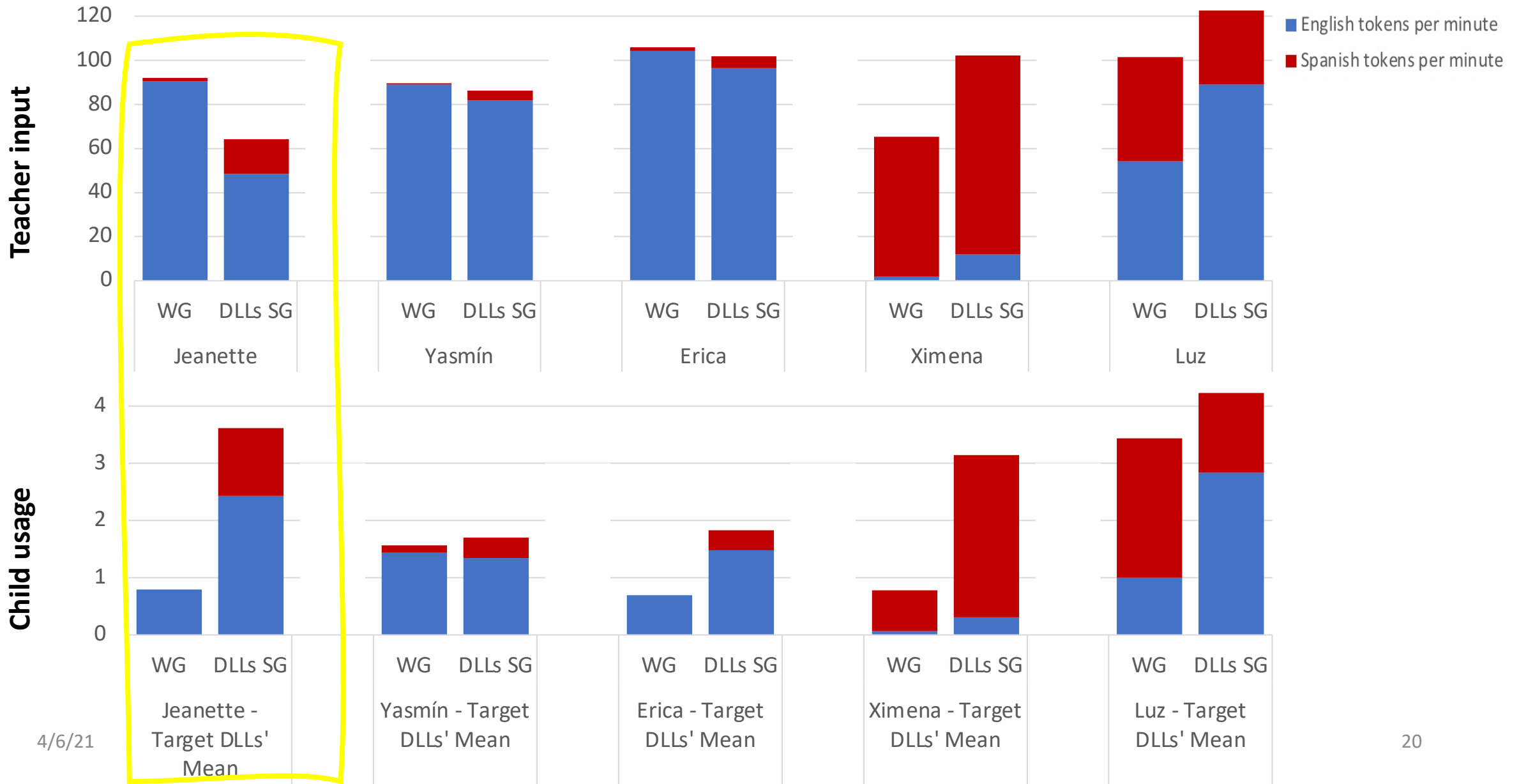
Percent Spanish



Cross-speaker Code-switches



Children's Spanish use mirrors teachers' Spanish use



Whole Group Qualitative Example

Ms. Jeanette Diego, what do you see in the picture?
Diego xxx [unintelligible]
Ms. Jeanette Who is that? Is that a little boy or a little girl?
Ellie & Precious A little girl!
Ms. Jeanette I'm asking Diego.
 Is that a little boy or a little girl right here in the blue jacket?
Precious Little girl.
Ms. Jeanette Now, he can see it better than you. He's very close.
 A *niña* or *niño*? [A girl or boy?]
 Dónde está niño? [where is boy?]
 Look, *mira*. [Look, look.]
 Aquí, aquí. [here, here.]

DLLs Small Group Qualitative Example

Ms. Jeanette
Diego
Ms. Jeanette
Christián
Ms. Jeanette
Christián
Ms. Jeanette
Diego
Ms. Jeanette
Diego
Ms. Jeanette
Christián
Diego

Cómo dice sounds like fife? [how say, sounds like fife?]

Teacher. *Yo quiero ese cuchillo.* [I want that knife.]

N-n-knife.

Knife.

Cuchillo say knife.

Knife!

Knife .

Cuchillo que... [Knife that...]

Don't cut your fingers. *Cuidado, no, cuidado.* [Careful, no careful.]

Yo tengo este cuchillo. Este corta. [I have this knife. This cuts.]

Corta. [It cuts.]

Corta. [It cuts.]

Sí corta bien éste. [Yes, this cuts well.]



Summary



- Teachers' Spanish use was ideosyncratic, but all five teachers **code-switched more frequently in the DLLs SG lessons**
- Teachers code-switched to **support children's meaning making** more than for social-emotional or behavioral functions, especially in the DLLs SG
- DLL students spoke more, took longer turns, used more Spanish, and code-switched between turns more frequently in DLLs SG

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Extra Slides

How do teachers' language practices differ by group context?

Teacher	Tokens per minute		Percent Spanish tokens		Within-turn code switches		Cross-speaker code switches		Within-turn code-switches coded as meaning making	
	WG	DLLs SG	WG	DLLs SG	WG	DLLs SG	WG	DLLs SG	WG	DLLs SG
Jeanette	92.05	64.24	1.70%	24.66%	11	41	0	20	54.55%	95.12%
Yasmín	89.54	86.30	0.54%	5.03%	3	28	3	11	66.67%	50.00%
Erica	105.81	101.84	1.63%	5.42%	12	22	5	7	58.33%	40.91%
Ximena	65.29	102.09	97.97%	88.21%	7	11	2	4	42.86%	100.00%
Luz	101.42	122.63	47.09%	27.35%	28	34	2	5	71.43%	58.82%
Mean	90.82	95.42	29.79%	30.14%	12.2	27.2	2.4	9.4	58.77%	68.97%
SD	15.75	21.69	42.97%	34.10%	9.52	11.48	1.82	6.50	11.11%	26.91%

Comparing children's language use in WG and DLLs SG using Wilcoxon Signed Rank Tests

	WG Median	DLLs SG Median	Z	<i>p (exact probability)</i>
Tokens/min	.591	2.576	3.135*	0.001
Mean Length of Turn ¹	1.750	2.464	2.627*	0.007
Percent Spanish ²	0.00%	30.00%	2.075*	0.037
Within-turn code switches ²	0.00	0.00	1.204	0.305
Cross-speaker code switches ²	0.00	2.00	3.471*	< 0.001

¹ Excluding 8 children with fewer than two turns in either WG or DLLs SG (n = 17)

² Excluding 6 children who did not speak at all in WG (n = 19)

Preliminary Analysis: Comparing Children across Centers

Comparing children's language use in Almond Heights and Fairvale using Wilcoxon Rank-Sum Tests

	Almond Heights Median	Fairvale Median	Z	<i>p (exact probability)</i>
Tokens/min	1.573	1.821	-0.381	0.718
Mean Length of Turn ¹	2.313	2.288	0.000	1.000
Percent Spanish ²	17%	51%	-1.569	0.129
Within-turn code switches ²	0	1	-0.223	0.827
Cross-speaker code switches ²	2	2.5	0.169	0.880

¹ Excluding 8 children with fewer than two turns in either WG or DLLs SG (n's = 11 and 6)

² Excluding 6 children who did not speak at all in WG (n's = 11 and 8)

Teacher quantity of talk by WG vs. DLLs SG

Quantity of teacher talk across instructional contexts

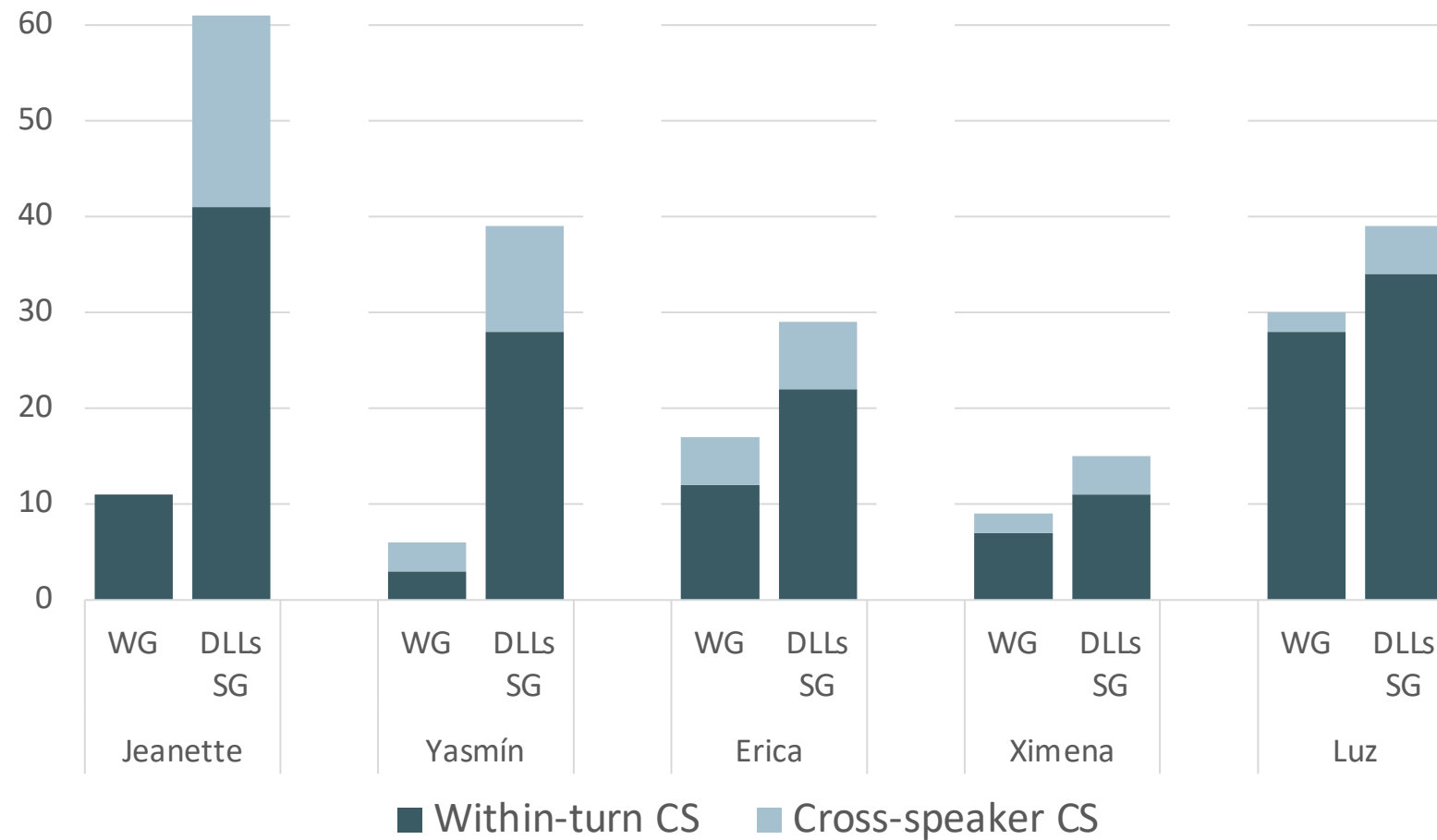
Teacher	Tokens/minute		Mean length of turn in words		Balanced conversational turn-taking	
	WG	DLLs SG	WG	DLLs SG	WG	DLLs SG
Jeanette	92.05	64.24	14.95	10.42	0.07	0.21
Yasmín	89.54	86.30	12.14	21.91	0.12	0.14
Erica	105.81	101.84	13.51	20.02	0.06	0.26
Ximena	65.29	102.09	11.76	16.31	0.08	0.22
Luz	101.42	122.63	12.55	17.44	0.11	0.26
Mean	90.82	95.42	12.98	17.22	0.09	0.22
SD	15.75	21.69	1.28	4.39	0.02	0.05

Teacher use of home language by WG vs. DLLs SG

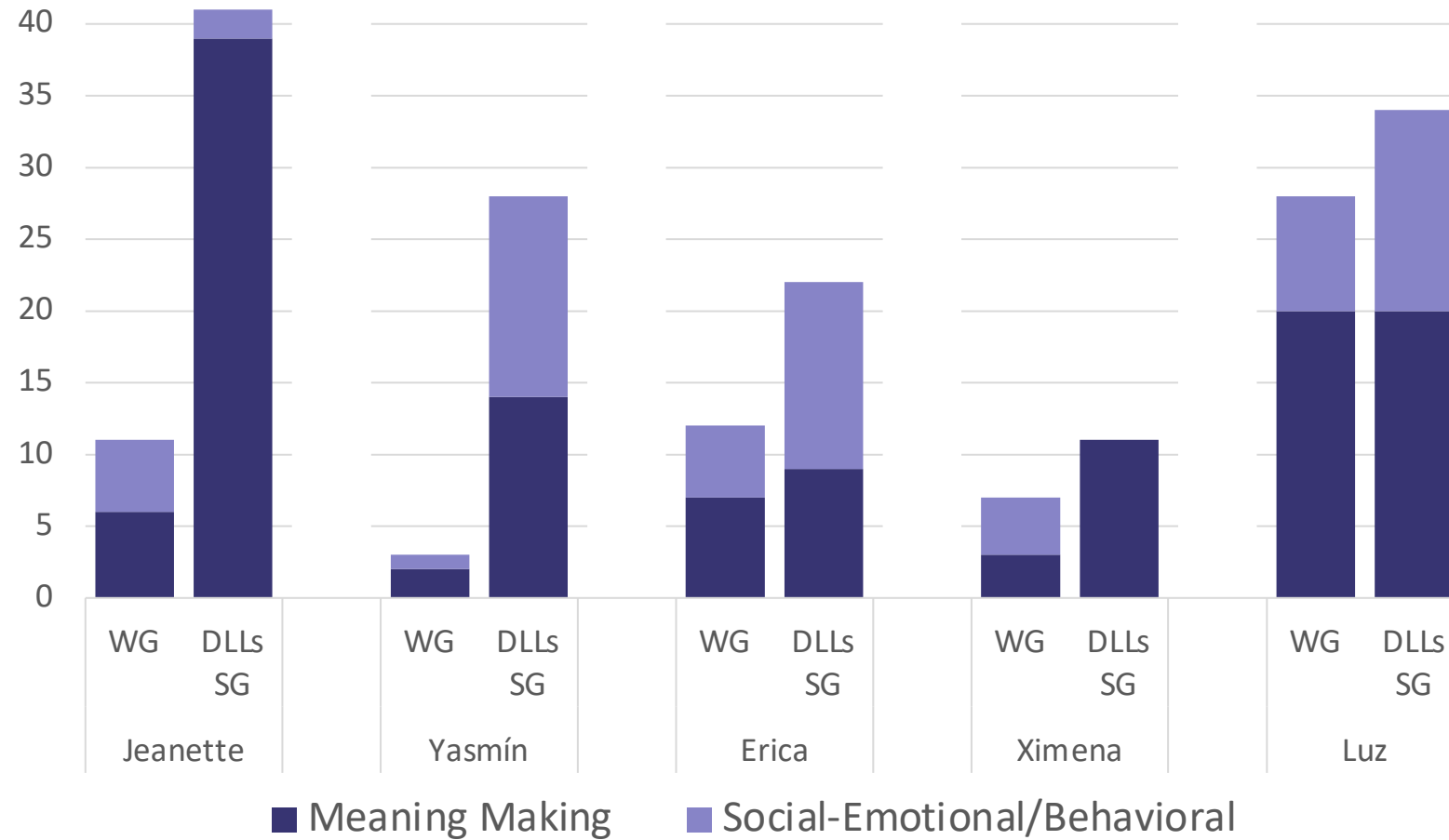
Teachers' Spanish use and code-switching in WG and DLLs SG

Teacher	Percent Spanish tokens		No. of within-turn code switches		No. of cross-speaker code switches		Percent within-turn code-switches coded as meaning making	
	WG	DLLs SG	WG	DLLs SG	WG	DLLs SG	WG	DLLs SG
Jeanette	1.70%	24.66%	11	41	0	20	54.55%	95.12%
Yasmín	0.54%	5.03%	3	28	3	11	66.67%	50.00%
Erica	1.63%	5.42%	12	22	5	7	58.33%	40.91%
Ximena	97.97%	88.21%	7	11	2	4	42.86%	100.00%
Luz	47.09%	27.35%	28	34	2	5	71.43%	58.82%
Mean	29.79%	30.14%	12.2	27.2	2.4	9.4	58.77%	68.97%
SD	42.97%	34.10%	9.52	11.48	1.82	6.50	11.11%	26.91%

Teacher Code-Switches by Type in WG vs. DLLs SG



Teacher Code-Switches by Function in WG vs. DLLs SG



Teacher Code-Switches by Function in WG vs. DLLs SG

