



## Effectiveness of Language interventions taught by SLTs to Early Childhood Professionals: Outcomes from the Lebanese multilingual context

Edith Kouba Hreich, Camille Moitel Messarra, Treacy Martinez Perez, Christelle Maillart

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You tell me, I forget

You teach me, I remember

You...

Benjamin Franklin

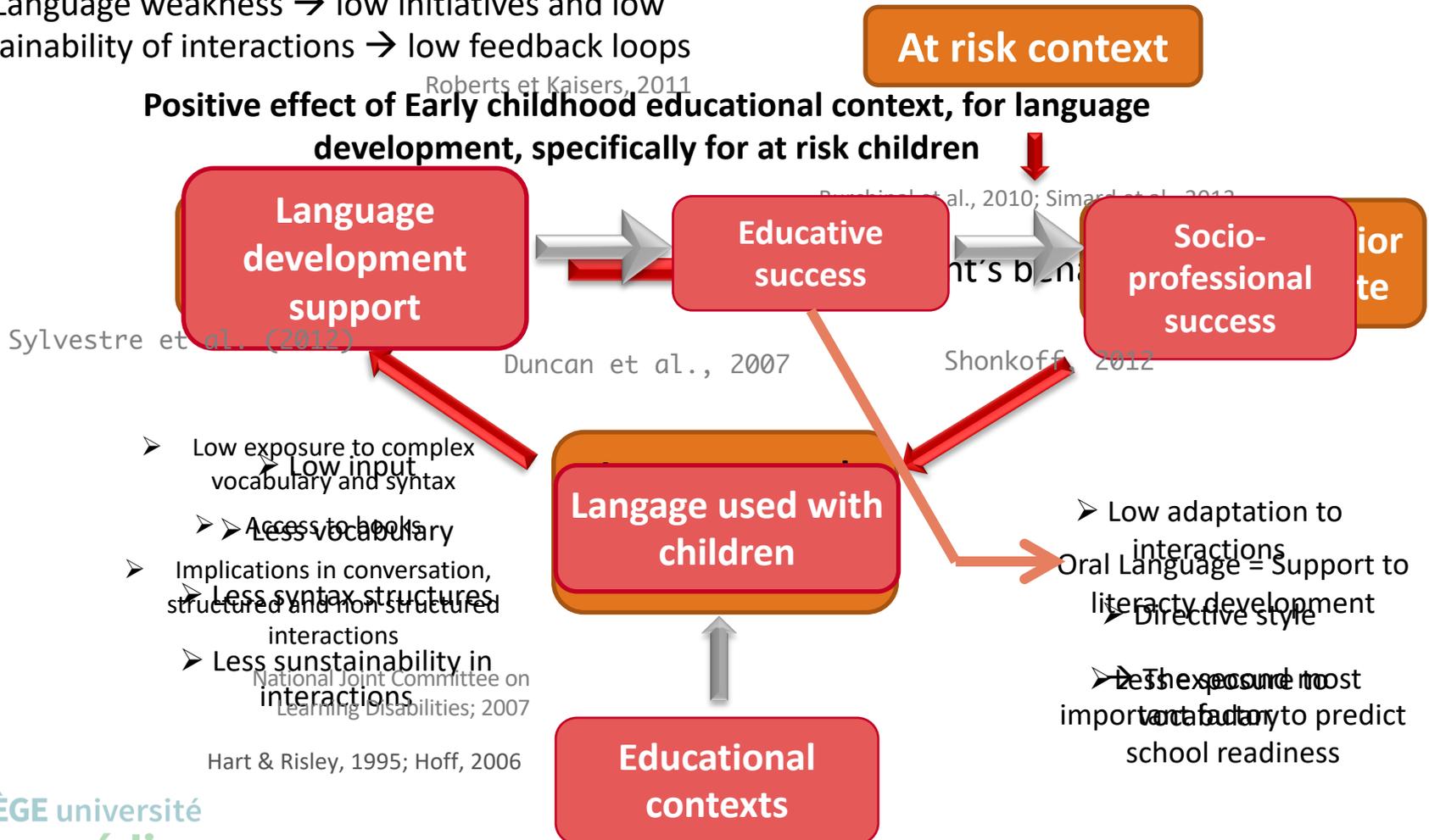




# Quality of interactions in early childhood education contexts

- Language weakness → low initiatives and low sustainability of interactions → low feedback loops

Roberts et Kaisers, 2011  
**Positive effect of Early childhood educational context, for language development, specifically for at risk children**





# The linguistic context



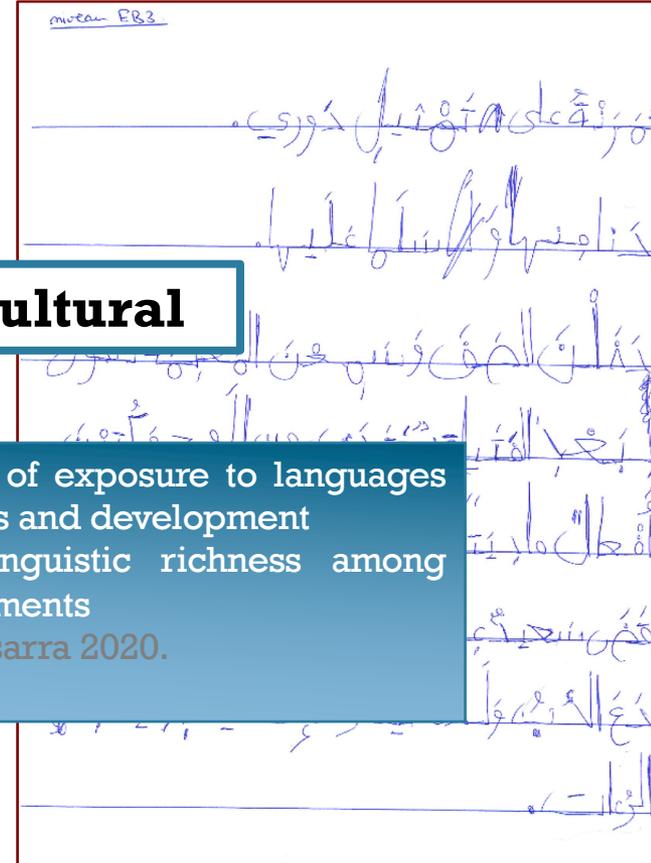
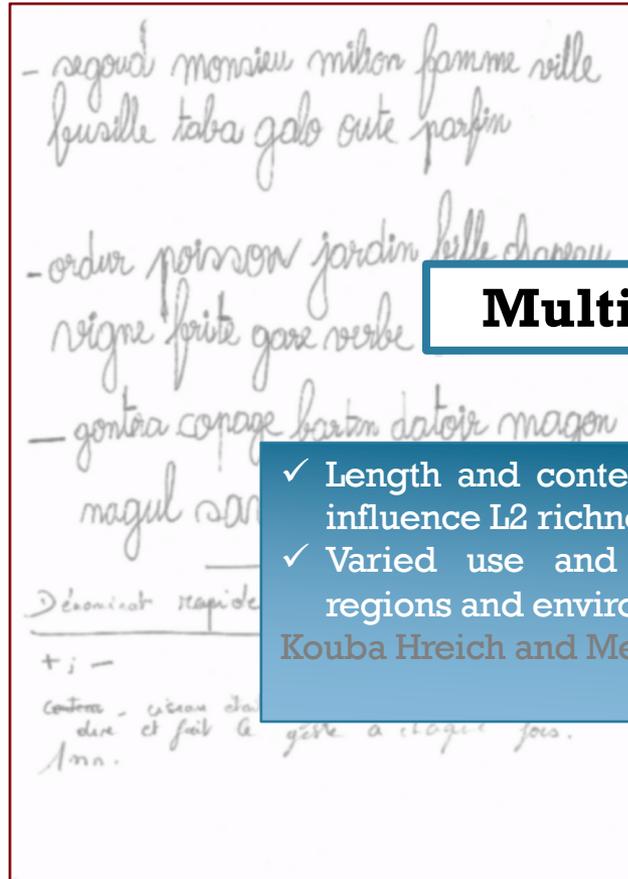
**Multilingual environment**

Lebanese + L2  
and/ or L3  
environnement

Modern Standard  
Arabic + L2 and/ or  
L3 at school

**Multicultural**

- ✓ Length and context of exposure to languages influence L2 richness and development
  - ✓ Varied use and linguistic richness among regions and environments
- Kouba Hreich and Messarra 2020.





Daycares/ nurseries  
(0- 3 Yrs)



Private and public Preschools  
(3- 5 Yrs)

## The Lebanese context for early childhood education

- Lack of preservice training for ECPs.
- An official curriculum for nurseries targeting basic needs (safety, hygiene) where language development is not a priority.
- A preschool curriculum targeting language proficiency in all school languages but without providing appropriate tools and training for teachers.

(Kouba Hreich et al. 2020)



## Lebanese context for SLP



### Research Report

#### Supporting language development in Lebanese preschools: SLT and pre-KT practice and perception of roles

Edith Kouba Hreich†‡ , Camille Moitel Messarra†‡ , Trecy Martinez-Perez‡, Sami Richa§   
and Christelle Maillart‡ 

- ✓ SLP profession officially recognized in april 2019 , however implemented in Lebanon 20 years ago.
- ✓ Around 500 SLPs in Lebanon. However 390/500 are registered
- ✓ 42/200 are school-based SLPs and 14/200 have also a practice in nurseries.
- ✓ Practices are organized according to the medical model of intervention.
- ✓ Scarcity of preventive interventions.
- ✓ SLPs and Pre-KTs acknowledge their role in supporting language development.
- ✓ However, confusions around professional roles.
- ✓ Lack of appropriate professional development programs targeting language development for both SLPs and ECPs.



+

**Early childhood professionals**  
Professional development



# Professional development efficacy: what modalities?

Joyce & Showers, 2002

TRAINING Components	OUTCOMES (% of Participants who Demonstrate Knowledge, Demonstrate new Skills in a Training Setting, and Use new Skills in the Classroom)		
	Knowledge	Skill Demonstration	Use in the Classroom
Theory and Discussion	10%	5%	0%
Demonstration in Training	30%	20%	0%
Practice & Feedback in Training	60%	60%	5%
Coaching in Clinical Setting	95%	95%	95%

- **Efficient coaching:** Dosage + active learning in situ
- **Process:** individualization + engagement

Elek & Page, 2019

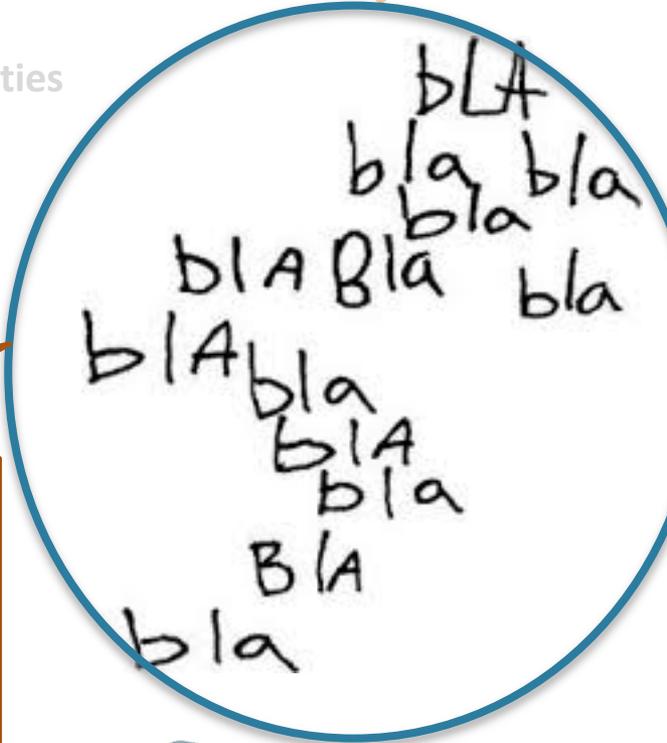
# + Professional development of ECPs

Language development scheme

Cognitive and perceptive abilities

Coaching

Daycares  
Preschools  
Families

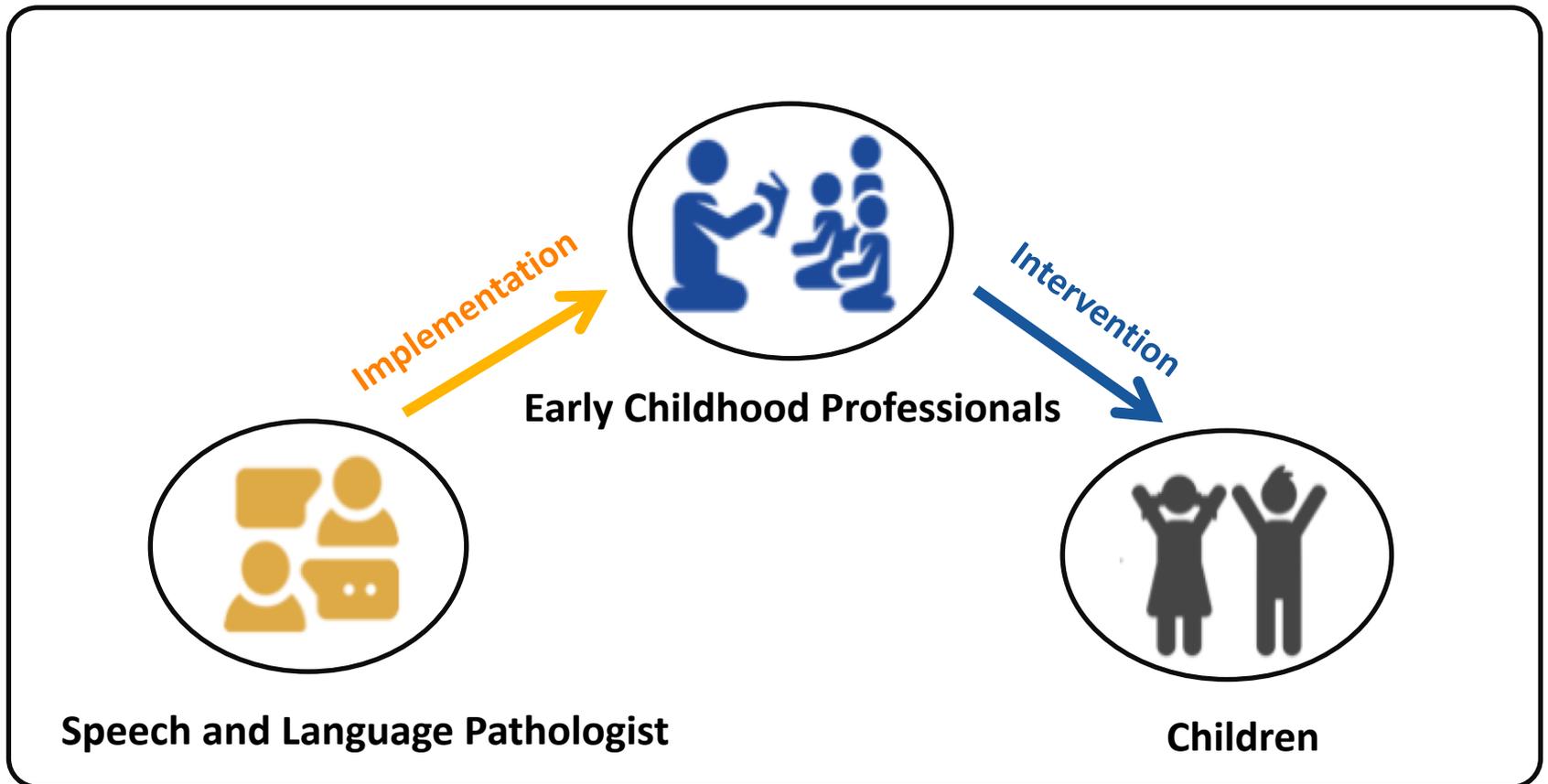


Positive effects of professional development conducted by SLPs on ECPs performance AND children's language abilities.

El Chouaifaty et al., 2012; Markussen-Brown, 2017; Rezonnicoo et al 2020



# + A Tailored Coaching Program



IN SITU

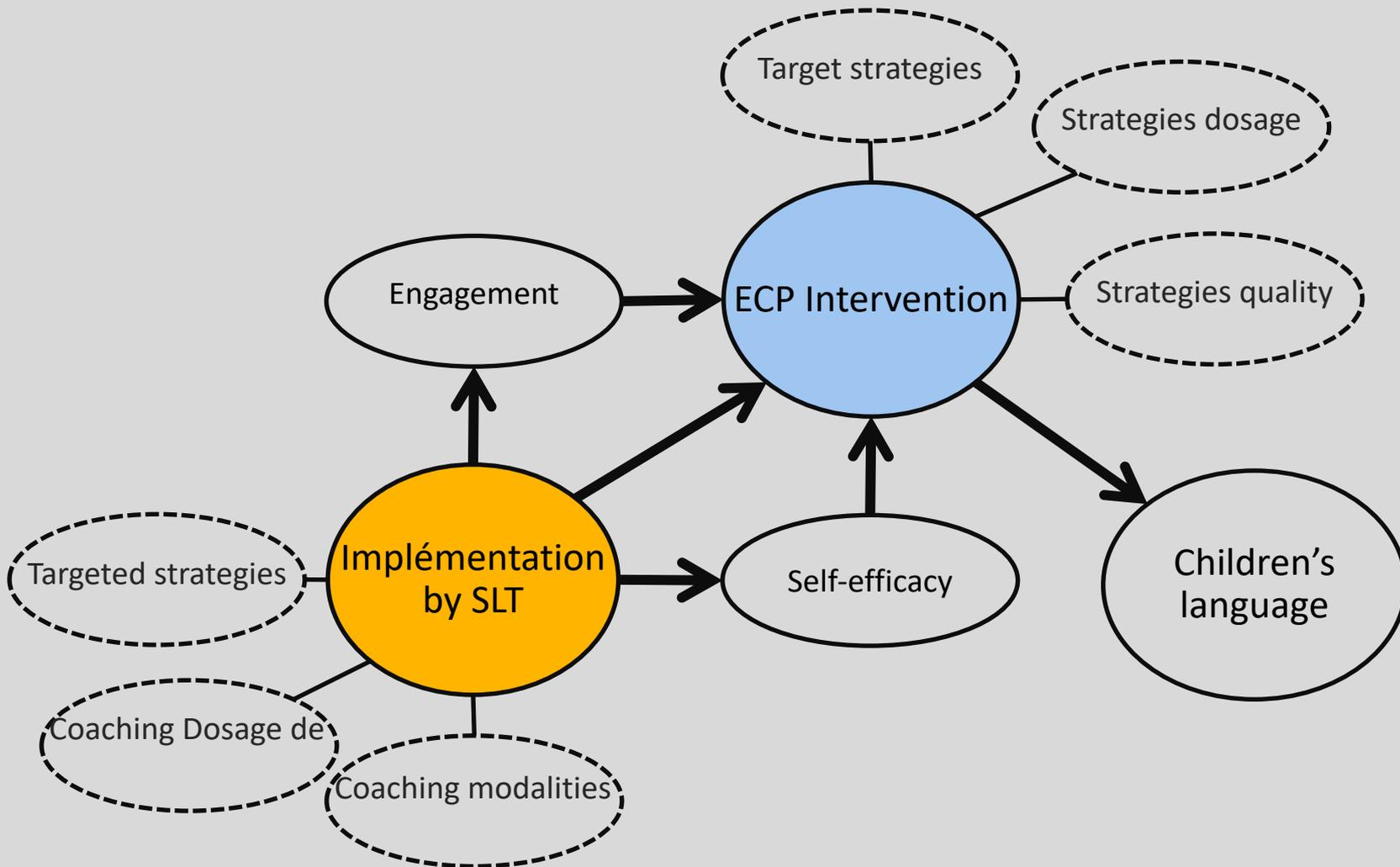


# How was it designed?

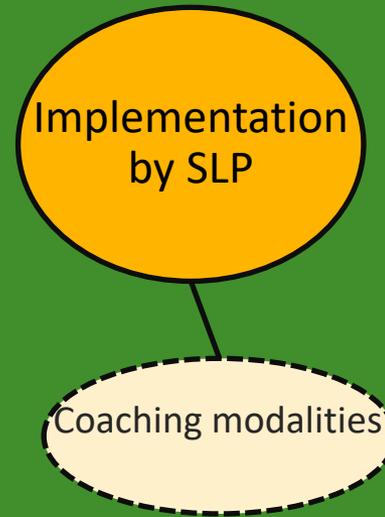
Adapted from Lieberman-Betz, 2015

SLP Expertise

ECP, CHILDREN AND CONTEXT CHARACTERISTICS



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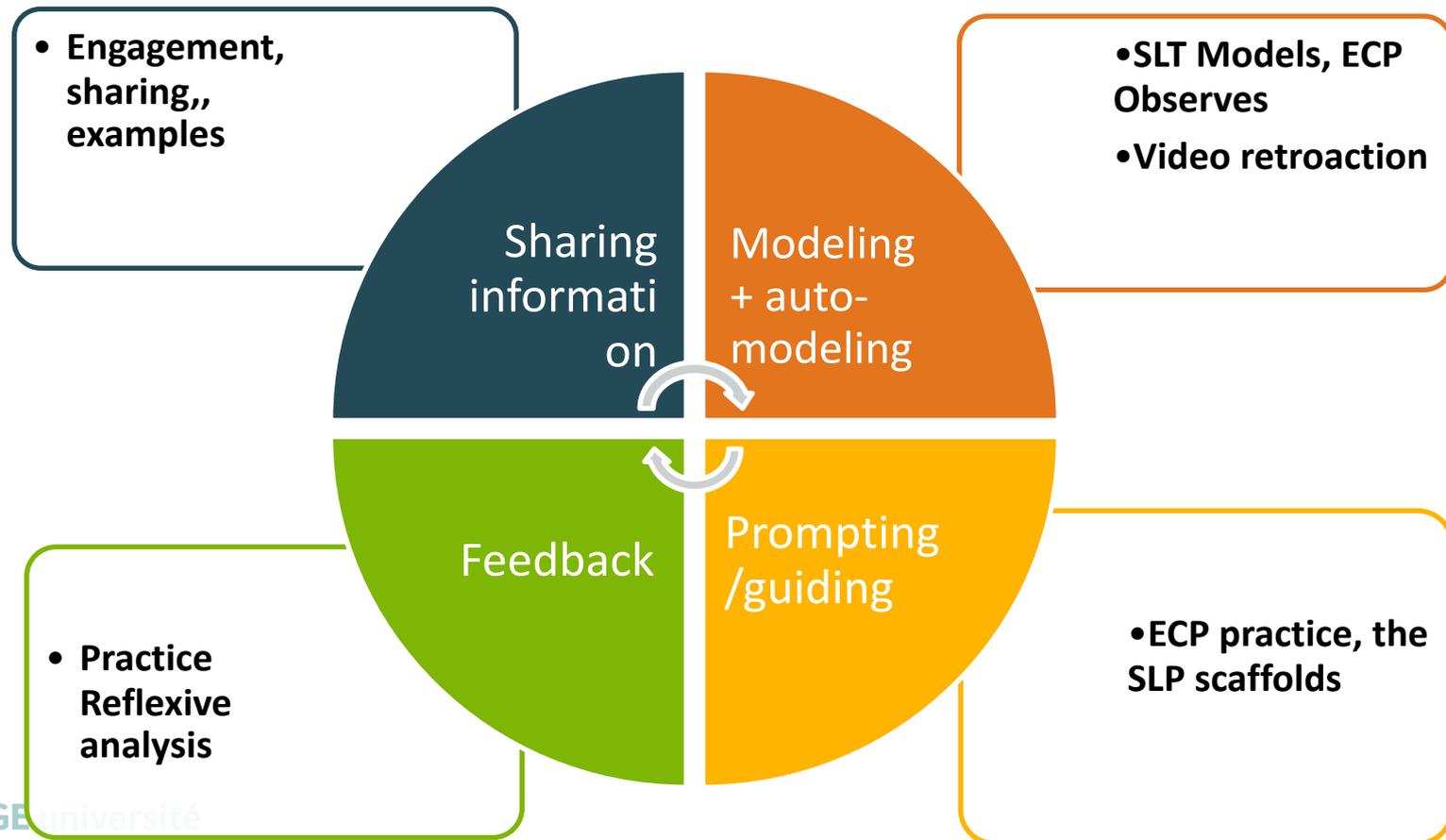
**Implementation process: the coaching modalities**

# + Implementation

Coaching modalities

## A combination of coaching modalities

Markussen-Brown et al. 2017; Biel et al. 2020

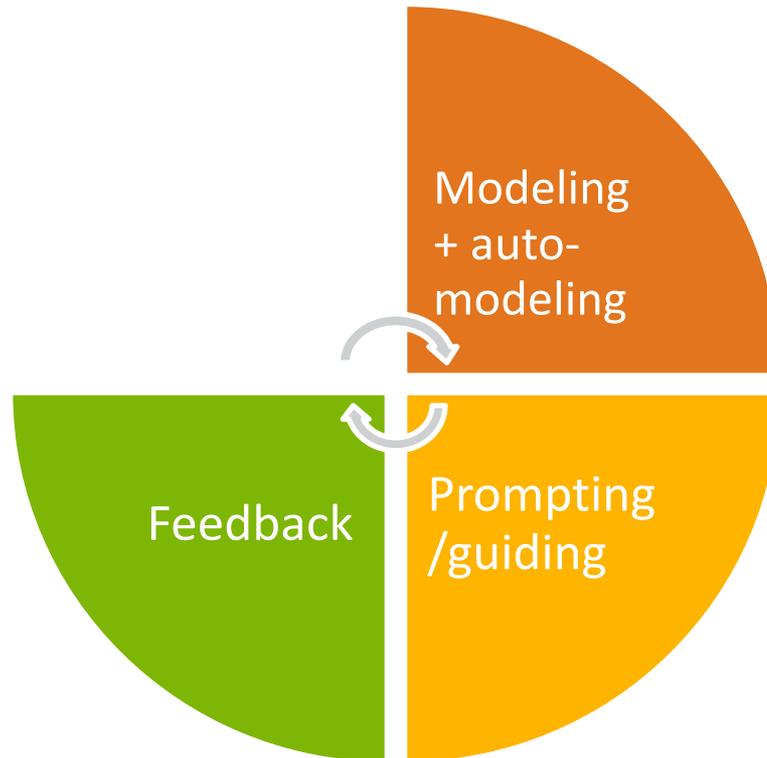


# + Implémentation

Coaching modalities

## 2 – Time for practice change

Elek & Page, 2019; Biel et al. 2020

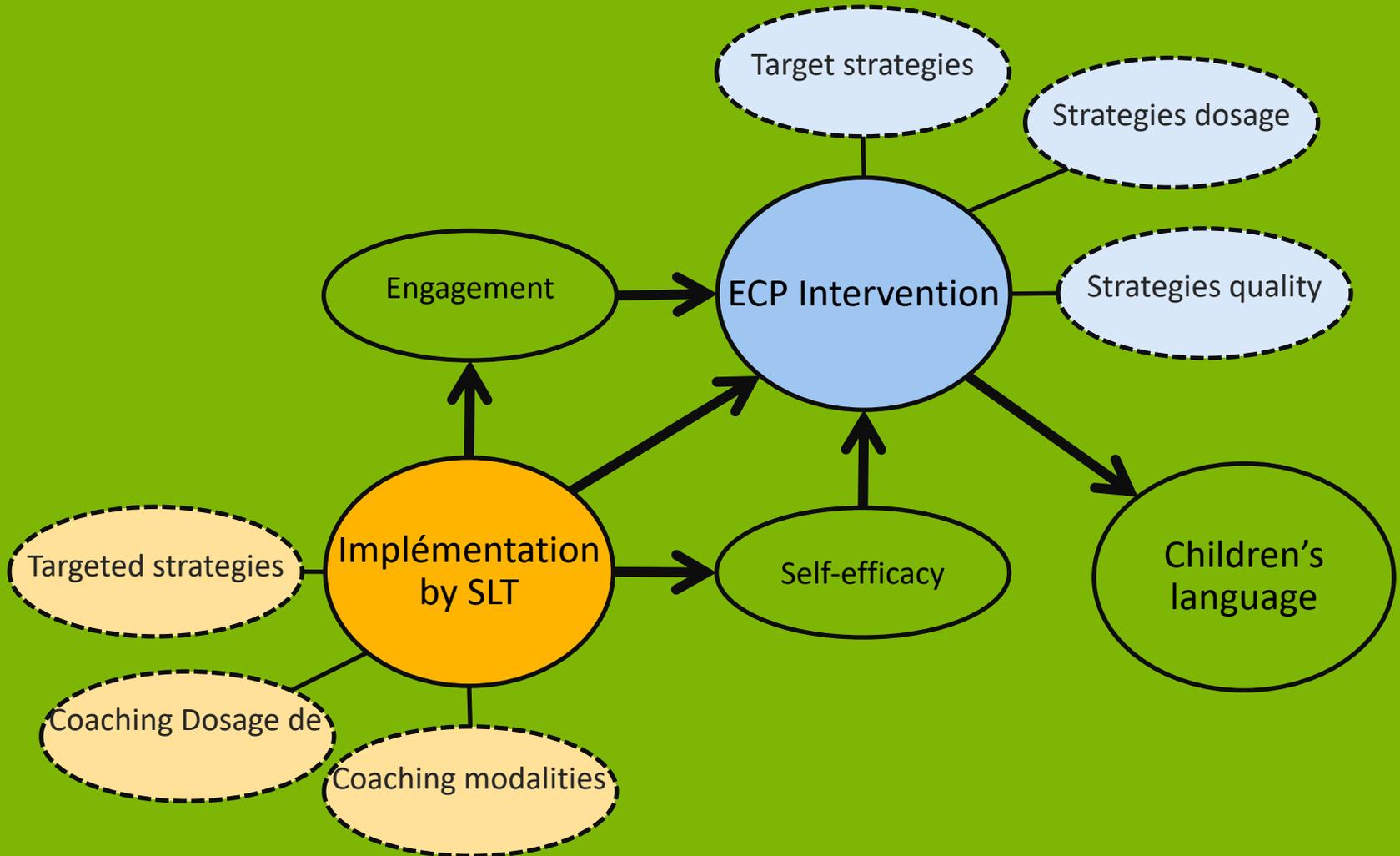


# + Implementation process: daycares and preschools

Adapted from Lieberman-Betz, 2015

SLP Expertise

ECP, CHILDREN AND CONTEXT CHARACTERISTICS



# + In daycares



# + Implementation: daycares

Targeted strategies

## Targeted Strategies

Levickis et al. 2014

Targeted strategies	Description	Examples	
		Child	Educator
<b>Labelling (LAB)</b>	Educator (Ed) names, describes, objects, actions, which are the object of the child's attention.	The child lengthens the doll.	« The doll is sleeping. »
<b>Paralel talk You (YOU)</b>	Ed. addresses the child yousing 'you' to describe what it does, sees, hears, feels.	The child cuts the cake.	« You cut the cake. »
<b>Questions (Q)</b>	Ed. asks questions about the current action : who? What? Where? What's this? What is that?	The child holds a dog in his hand	« What is that ? »
<b>Repetition (REP)</b>	Ed. repeats the last verbal production of the child	« A cookie »	« A cookie »
<b>Extension (EXT)</b>	Ed. extends the child's production (at least one word more/repetition of what he produced.	« a dog »	« Yes, a white dog!"

# + Implementation: daycares

Support dosage

## Dosage

Inspired by parental support (Roberts et Kaiser, 2011; Kong et Carta, 2013)

Target (strategie) 1				Target 2 to 5
Week 1		Week 2		
Day 1	Day 2	Day 1	Day 2	IDEM
Sharing info Modeling + Auto- modeling	Prompting/guiding Retroaction	Sharing info Modeling + Auto- modeling	Prompting/guiding Retroaction	

### Implementation

- Length : 12 weeks

### TARGET

- Intensity : 30mn/day
- Frequency : 2 /week
- Length : 2 hours

### TEACHING FUNCTIONS

- Intensity : 10 minutes
- Frequency : 2 fois / cible

Total = Each function used 20 minutes per targeted strategie

# + Implementation: daycares

Support dosage

*To test efficacy*



3 base-line measures

Target (strategie) 1				Targets 2 to 6  IDEM
★ Week 1		★ Week 2		
Day 1	Day 2	Day 1	Day 2	
Sharing info Modeling + Auto- modeling	Prompting/guiding Retroaction	Sharing info Modeling + Auto- modeling	Prompting/guiding Retroaction	



3 post base-line  
maesures



+ Measurements taken during implementation

# + Intervention: daycares

Dosage

## 2 minimum uses of the target per minute of intervention

Down et al., 2015

- Minimum threshold for using a strategy to observe an effect on children's language in parental studies



# + Intervention: daycares

Targeted strategies

The implementation increases the frequency of use of the strategies worked out with the educators. Illustration :

Educators	Targeted STRATEGIE	BL1	BL2	BL3	M1	M2	Mean BL	Mean M1M2	Tau-U	p-value
E3	YOU	0.6	0.92	0.35	9.25	9.71	0.62	9.48	1	<u>0.04</u>
	LAB	1.9	2.42	2.82	12	9.14	2.38	10.57	1	<u>0.01</u>
	Q°	1.4	1.25	1.12	4.85	6.57	1.26	5.71	1	<u>0.04</u>
	REP	0.2	0.58	0.24	3.71	4.00	0.34	3.86	1	<u>0.04</u>
	EXT	0	0	0	Lockdown					
E4	Q°	2.07	2.29	0.71	8.84	8.41	1.69	8.63	1	0.08
	YOU	0.83	0.14	0	8.04	8.68	0.32	8.36	1	<u>0.04</u>
	LAB	1.24	0.57	0	5.18	8.55	0.60	6.87	1	<u>0.04</u>
	REP	0.83	0.43	0	4.53	5.23	0.42	4.88	1	<u>0.04</u>
	EXT	0.14	0	0	Lockdown					

# + Intervention: daycares

Non targeted strategies

The implementation had a specific effect on targeted strategies. Non targeted strategies (NTS), comments (C), closed questions (CQ), choices question (ChQ) and parallel talk « I » (I), did not increase.

Educator	NTS	BL1	BL2	BL3	M1 NTS	M2 NTS	M3 NTS	M4 NTS	M5 NTS	M6 NTS	M7 NTS	M8 NTS	Mean BL	Mean M	Tau-U	p-value
E3	C	3.8	3	3.06	0.75	1.25	2.85	0.85	2.42	4.14	1.85	1.71	3.29	1.98	-0.7	0.08
	CQ	1.4	0.58	1.12	0.87	1.12	2.14	1.42	1.14	0.28	2	0.57	1.03	1.19	-0.3	0.6
	ChQ	0	0.08	0.06	0	0	0	0	0.14	0	0	0	0.05	0.02	-0.5	0.2
	I	1	0.33	0.41	0.62	0.12	0.85	0.42	1.71	0.85	0.42	0.14	0.58	0.64	0.12	0.75
E4	C	4.82	3.29	3.71	2.24	2.56	0	1.42	2.28	2.42	1.98	0.71	3.94	1.70	-0.95	<u>0.01</u>
	CQ	2.07	1.14	1.14	0	1.34	0.14	0.57	0.61	1.28	0.42	0.28	1.45	0.58	-0.66	0.29
	CQ	0.28	0	0	0	0	0	0	0	0	0	0	0.09	0.00	-0.66	0.29
	I	2.07	1.86	0.57	0.28	0.95	0.71	0.43	1.37	0.57	0.14	0.14	1.50	0.57	-1	0.11

# + In preschools



Through shared book reading activity



Targeted strategies

## Implementation through a shared book reading activity,

Targeted Strategies	Description	Examples
Define a word (DEF)	Teacher select a word and provides definition or synonym	<i>T: She is a ladybug. A ladybug is a small beetle red or yellow with black spots."</i>
Repeating the word (REP)	Teacher repeats a targeted word from the book to insist.	<i>T: Aldo is a crocodile. A crocodile.</i>
Chiming (CHI)	Teacher asks children to repeat in union a word	<i>T: Let's say: "Crocodile".</i>
Prompts completion (PC)	Teacher asks the children to fill in a repeated word in a sentence.	<i>T: Janice went up the ..... Ch: [hill]</i>
Literal questions (LQ)	Teacher asks questions to elicit a predetermined word in the story	<i>T: Where is she hiding? Ch: in the [closet].</i>
Inferential questions (IQ)	Prompted the child to use preselected words that were not explicitly present in the text	<i>T: How do you think he is feeling? Ch: [upset].</i>
Relating (REL)	The teacher relates a targeted word to the child's experience or real world	<i>T: It' Teddy Bear's [cake]. Ines, what did you put on your birthday [cake]?</i>

# Implementation: preschools

## Dosage



3 baseline measures

Target strategy			
Week 1 (modelling)		Week 2 (scaffolding)	
Sharing information	20 min	Sharing information	15 min
Modelling	25 min	Scaffolding	25 min
Debriefing + feedback	15 min	Debriefing + feedback	20 min



3 baseline measures  
post

Protocol: 12 weeks

**Target**

- intensity : 25 min / week (+/-)
- frequency : once per week
- Duration : 2 week

Total = 1 hour / strategy

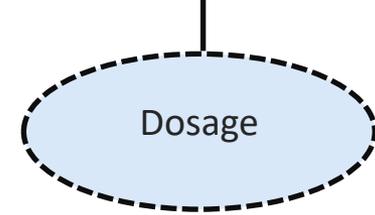
**Teaching functions**

- intensity : 35 minutes
- Frequency : once per week

Total = 1 hour per strategy

Regular measures: one per strategy

# + Intervention: preschools



Min. 9 utterances per reading session

- A cut-off score of nine utterances was used to determine whether a strategy is effectively employed by the participant.



# + Implementation: preschools

The implementation process led to a sudden rise of targeted strategies immediately after its specific teaching cycle.

		Baselines			Implementation								
Pre-KTs	TS	BL1	BL2	BL3	M1	M2	M3	M4	M5	MBL	MI	NAP	p
P1	LQ	1	7	8	37*	34*	15	25		5.33	27.75	1	0.03
	DEF	0	0	2	2	4	6*	13*		0.67	6.25	0.95	0.05
P2	IQ	4	4	5	37*	9	6	3	1	4.33	11.2	0.6	0.65
	DEF	1	1	0	2	8*	12*	3	14	0.67	7.80	1	0.02
	REL	1	1	1	3	4	8	9*	4	1.00	5.60	1	0.02
	PC	7	7	3	4	9	2	6	40*	5.67	12.2	0.53	0.88

# + Implementation

	Baselines				Implementation								
Pre-KTs	NTS	BL1	BL2	BL3	M1	M2	M3	M4	M5	MBL	MI	NAP	p
P1	IQ	0	1	0	1	6	3	7		0.33	4.25	0.95	0.05
	REL	0	0	3	0	1	0	2		1	0.75	0.5	1
	CP	0	0	3	2	3	0	4		1	2.25	0.61	0.66
	REP	0	1	1	5	12	2	4		0.67	5.75	1	0.03
	CHI	0	0	1	0	0	0	0		0.33	0	0.33	0.47
P2	LQ	25	25	46	32	13	7	25	9	32	17.2	0.2	0.17
	REP	4	4	4	25	2	3	1	12	4	8.6	0.4	0.65
	CHI	0	0	0	2	1	0	0	0	0	0.6	0.7	0.37

The use of non targeted strategies post implementation

# + Implementation: preschools

Engagement

Self-efficacy

## 5 - Engagement et sentiment de compétence

### ■ Engagement (Staudt, 2007)

- Nominal groups/ needs
- Preparatory session for sharing information about language development
- Individual meetings

- Responsiveness
- Motivation
- Adherence
- Implication

### ■ Self-efficacy (Munez et al., 2017)

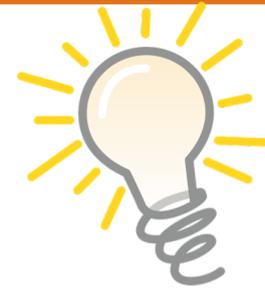
- Guiding/prompting
- feedback

- Reinforcements
- Precision
- Linking to children's abilities

# + Conclusion



- **Precision of dosage**(Elek and Page, 2019; Biel et al., 2020)
- **Design In situ** (Neuman and Cunnuingham, 2009, Trivette et al., 2009)
- **Engagement** (Dunst et Trivette, 2009; Munez et al., 2017)
- **Individualization and reflexive practice**(Joyce and Showers, 1982, Pianta et al, 2012)



- Towards more individualization
- Towards an individualized dosage according to ECPs characteristics



**+** Changing practices:  
what challenges?



For ECPs



For SLPs

- Redefining professional roles
- Redefining practices through preservice preparation and trainings
- Becoming a conversation partner

Bleach, 2014

You tell me, I forget.  
You teach me, I remember.



# + References

- Biel, C. H., Buzhardt, J., Brown, J. A., Romano, M. K., Lorio, C. M., Windsor, K. S., ... & Goldstein, H. (2020). Language interventions taught to caregivers in homes and classrooms: A review of intervention and implementation fidelity. *Early Childhood Research Quarterly, 50*, 140-156.
- Bleach, J. (2014). Developing professionalism through reflective practice and ongoing professional development. *European early childhood education research journal, 22(2)*, 185-197.
- Bouchard, C., Bigras, N., Cantin, G., Coutu, S., Blain-Brière, B., Eryasa, J., ... & Brunson, L. (2010). Early childhood educators' use of language-support practices with 4-year-old children in child care centers. *Early Childhood Education Journal, 37(5)*, 371-379.
- Burchinal, M. (2018). Measuring early care and education quality. *Child Development Perspectives, 12(1)*, 3-9.
- Degotardi, S., Han, F., & Torr, J. (2018). Infants' experience with 'near and clear' educator talk: Individual variation and its relationship to indicators of quality. *International Journal of Early Years Education, 26(3)*, 278-294.
- Down, K., Levickis, P., Hudson, S., Nicholls, R., & Wake, M. (2015). Measuring maternal responsiveness in a community-based sample of slow-to-talk toddlers: a cross-sectional study. *Child: care, health and development, 41(2)*, 329-333.
- Dunst, C. J. (2015). Improving the design and implementation of in-service professional development in early childhood intervention. *Infants & young children, 28(3)*, 210-219.

# + References

- El-Choueifati, N., Purcell, A., McCabe, P., & Munro, N. (2012). Evidence-based practice in speech language pathologist training of early childhood professionals. *Evidence-based communication assessment and intervention*, 6(3), 150-165.
- Elek, C., & Page, J. (2019). Critical features of effective coaching for early childhood educators: A review of empirical research literature. *Professional Development in Education*, 45(4), 567-585.
- Joyce and Showers, 1982
- Joyce, B. R., & Showers, B. (1981). Transfer of training: The contribution of “coaching”. *Journal of Education*, 163(2), 163-172.
- Joyce, B. R., & Showers, B. (2002). Student achievement through staff development.
- Kong, N. Y., & Carta, J. J. (2013). Responsive interaction interventions for children with or at risk for developmental delays: A research synthesis. *Topics in Early Childhood Special Education*, 33(1), 4-17.
- Levickis, P., Reilly, S., Girolametto, L., Ukoumunne, O. C., & Wake, M. (2014). Maternal behaviors promoting language acquisition in slow-to-talk toddlers: prospective community-based study. *Journal of Developmental & Behavioral Pediatrics*, 35(4), 274-281.
- Lieberman-Betz, R. G. (2015). A systematic review of fidelity of implementation in parent-mediated early communication intervention. *Topics in Early Childhood Special Education*, 35(1), 15-27.
- Markussen-Brown, J., Juhl, C. B., Piasta, S. B., Bleses, D., Højen, A., & Justice, L. M. (2017). The effects of language-and literacy-focused professional development on early educators and children: A best-evidence meta-analysis. *Early Childhood Research Quarterly*, 38, 97-115.



# References

- Milburn, Trelani F., et al. "Enhancing preschool educators' ability to facilitate conversations during shared book reading." *Journal of Early Childhood Literacy* 14.1 (2014): 105-140.
- Múñez, D., Bautista, A., Khiu, E., Keh, J. S., & Bull, R. (2017). Preschool teachers' engagement in professional development: Frequency, perceived usefulness, and relationship with self-efficacy beliefs. *Psychology, Society, & Education*, 9(2), 181-199.
- Neuman, S. B., & Cunningham, L. (2009). The impact of professional development and coaching on early language and literacy instructional practices. *American educational research journal*, 46(2), 532-566.
- Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In *Handbook of research on student engagement*(pp. 365-386). Springer, Boston, MA.
- Roberts, M. Y., & Kaiser, A. P. (2011). The effectiveness of parent-implemented language interventions: A meta-analysis. *American Journal of Speech-Language Pathology*.
- Tamis-Le Monda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child development*, 72(3), 748-767.
- Trivette, C. M., Dunst, C. J., Hamby, D. W., & O'herin, C. E. (2009). Characteristics and consequences of adult learning methods and strategies. *Research Brief*, 3(1), 1-33.
- Sylvestre et al, 2010
- Staudt, M. (2007). Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies*, 16(2), 183-196.
- The impact of dose and dose frequency on word learning by kindergarten children with Developmental Language Disorder (DLD) during interactive book reading
- Showers, B. (1982). *Transfer of Training: The Contribution of Coaching*.



Thank you!

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