The role of teachers' metacognitive talk in young children's language development: a pilot study

Nora Chrifi^{1,3}, Marie Geurten^{2,3}, Christelle Maillart¹

¹Research Unit for a life-Course perspective on Health and Education, ULiège, Belgium ²Psychology and Neuroscience of Cognition Unit, ULiège, Belgium ³National Fund for Scientific Research (F.R.S-FNRS)

Background

The role of **linguistic input** in language development and learning is well-established and well-documented (1)

Studies have demonstrated the efficacy of metacognitive talk in fostering reading comprehension, mathematical competence, and memory function. (2,3,4)



Monitoring: processes for evaluating the efficacy of cognitive operations

Control: processes of implementing strategies to regulate cognitive operations



- Not explored in preschool/kindergarten context
- Not examined in the context of language development

T1: Three contexts for observing teacher-children interactions

Book reading

Years of kindergarten

experience

29,6 (4,03)



What is the relationship between kindergarten teachers' metacognitive talk and the development of their pupils' language skills?

Methods

Children

5 French-speaking kindergarten teachers and 26 children (4-6/teacher)

Measures taken in December 2024 (T1) and/or June 2025 (T2)





n	Age (months)	Gender	SES	Ravens's Matrices
26	66,03 (3,92)	15F – 11M	14,92 (2,26)	11,69 (2,85)

T1 & T2: Three language measures for children

Gain scores (T2-T1)

Receptive vocabulary

PPVT-5

Inferences

Inferences in narration (ECIR)

Phonological awareness

Rhymes Initial phoneme Syllabic inversion

5

seachers

Video recordings in the classroom

Ritual

Years of teaching

experience

30,4 (3,36)



Transcript of the interaction videos



Coding of teachers' metacognitive talk

« Very good! »

Years of

education

15 (0)

- « Are you sure? »
- « Do you remember? »

Mathematics activity

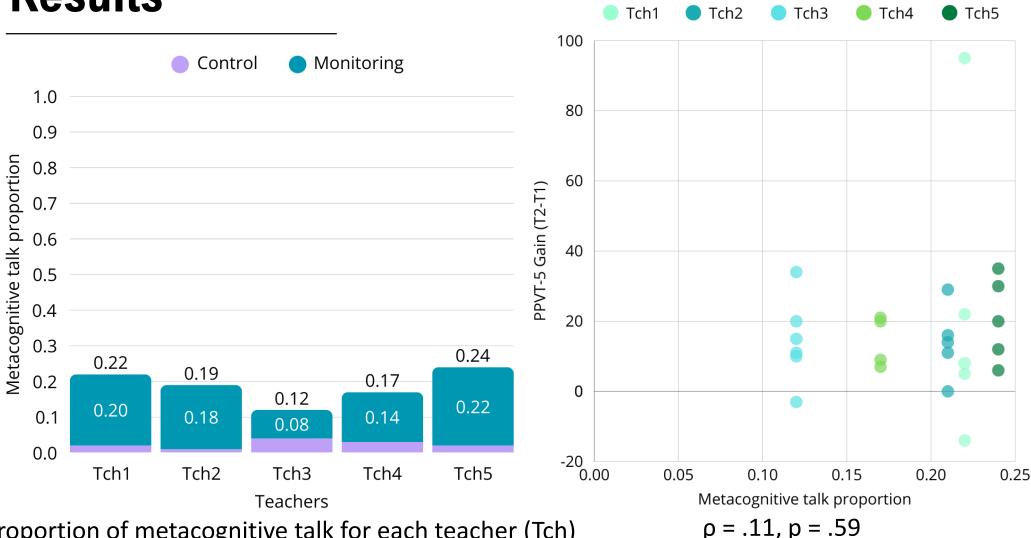
« How did you find the answer? »

n children/class

19,6 (4,09)

« Count to check if it's correct »

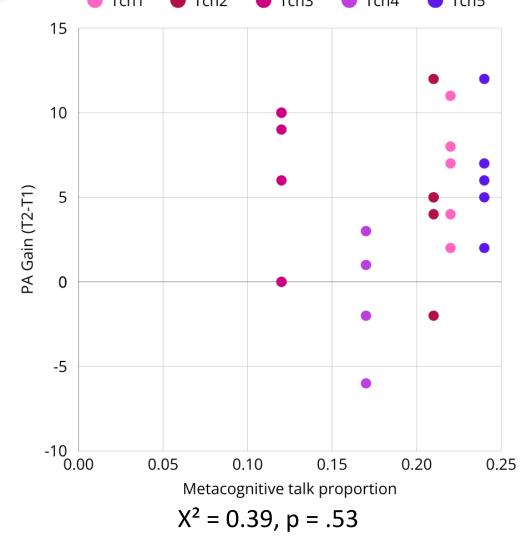
GLM and Spearman correlation Results



Proportion of metacognitive talk for each teacher (Tch)

30 20 ECIR Gain (T2-T1) -10 Metacognitive talk proportion $X^2 = 2.03$, p = .15

Estimate MT = 59.6, SE = 41.83, z = 1.42, p = .168, $f^2 = .08$



Estimate MT = 13.4, SE = 21.21, z = 0.63, p = .53, $f^2 = .02$

Discussion

Teachers' metacognitive talk:

- Variability among teachers (3)
- **Monitoring > Control** // studies on parent-child interactions (2)
- Few suggestions and questions about strategies (3)

Link between metacognitive talk and language:

- No correlation between metacognitive talk and the progression of language skills
- Positive trend but not statistically significant

Several limitations

Small sample size Hierarchical data not taken into account Negative gains (T2-T1) Methodological issues Child Language Symposium 2025 | September 8th-10th - University of Reading

Perspectives

- Conduct the study with a larger sample
- Redefine the activities and observation contexts
- Explore the **factors** influencing the adoption of supportive language:
 - Teachers' objectives, representations, knowledge, classroom climate, children's profiles
 - Related to variability?
- Appropriate and robust statistical analyses

RÉFÉRENCES 1. Weiss, Y., Huber, E., Ferjan Ramírez, N., Corrigan, N. M., Yarnykh, V. L., & Kuhl, P. K. (2022). Language input in late infancy scaffolds emergent literacy skills and predicts reading related white matter development. Frontiers in Human Neuroscience, 16, 1-19 2. Gardier, M., Léonard, C., & Geurten, M. (2024). Examining children's memory performance: The role of parents' and children's metacognitive talk during reminiscence and play. Journal of Cognition and Development, 25(4), 602-618.

3. Grammer, J. K., Coffman, J. L., Sidney, P., & Ornstein, P. A. (2016). Linking teacher instruction and student achievement in mathematics: The role of teacher language. Journal of Cognition and Development, 17(3), 468-485. 4. Urban, M., Urban, K., & Nietfeld, J. L. (2023). The effect of a distributed metacognitive strategy intervention on reading comprehension. Metacognition an Learning, 18(2), 405-424.



Contact: Nora.Chrifi@uliege.be PhD candidate, FRESH (F.N.R.S.) Grant

SCAN ME!

