

METACHILD

Promoting metacognition in young children, a lever to reduce educational inequalities?

Metacognition is of major interest in education because it is closely related to academic achievement. However, most of the studies has been conducted with primary and secondary school students and works with young children are only emergent. Furthermore, some recent studies suggest that metacognition could constitute a lever to reduce educational inequalities. However, the field is still little explored, and no study has been conducted with young children while these inequalities are witnessed from the earliest age. The main objectives of the project METACHILD are to fill these gaps and inform public policies on the levers to reduce educational inequalities by (1) exploring the relations between metacognition, academic achievement and socio-economic status in young children between 5 and 7 years old and (2) evaluate a direct classroom intervention aiming at promoting metacognition in kindergarten.

Background

Metacognition refers to knowledge (i.e., knowledge about cognitive processes, one's own strengths and weaknesses in learnings) and cognition regulation skills (i.e., planning, monitoring and self-evaluation) involving reflexivity about one's own thought processes (Flavell et al., 2002). It is of major interest in education because these abilities are closely related to academic achievement (Zohar & Barzilai, 2013). However, the majority of studies have been conducted with primary and secondary school students and work with young children is only emerging (Whitebread et al., 2009). Furthermore, unlike other cognitive abilities, the link between socioeconomic status and metacognition has been little studied (Muijs & Bokhove, 2020) while recent results suggest that the promotion of metacognition could be a lever to reduce educational inequalities (de Boer et al., 2018). Thus, the extension of this research to young children seems even more relevant considering that educational inequalities are witnessed from the earliest age and that education systems are struggling to reduce them (OECD, 2019).



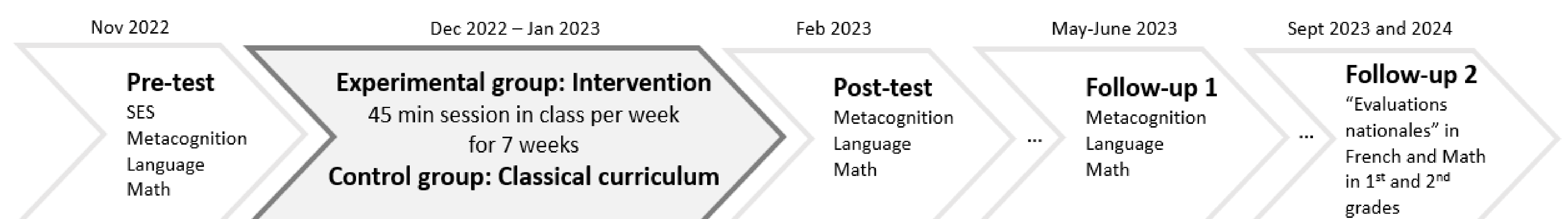
In this context, the main objectives of the project METACHILD are to :

1. Explore the relations between metacognition, academic achievement and educational inequalities in young children between 5 and 7 years old ;
2. Evaluate whether a direct classroom intervention aiming at promoting metacognition in kindergarten can reduce educational inequalities.

Methodology

Sample:

350 kindergarteners aged between **5 and 6 years old**: 175 children in the experimental group and 175 in the control group
Recruitment in **schools with families from diverse socio-economic backgrounds** in the **region of Paris**



Intervention

The intervention aims to foster three main components of metacognition:

- **Metacognitive knowledge:** teaching children how their brain works and learns (e.g., brain anatomy, functions, brain plasticity)
- **Metacognitive skills:** teaching children how to plan, monitor and self-evaluate their class activities such as construction games, exercises in phonology, simple math calculations.
- **Metacognitive awareness:** teaching children what type of reflexive questions they can ask themselves to self-regulate their learnings (e.g., What types of strategies can I use? How can I do better next time?)



Implications for public policies

The main implication for public policies is to inform on the potential of metacognition as a lever to reduce educational inequalities from an early age.

If the results are conclusive, we can expect this intervention to be disseminated on a large scale to the actors of the educational community.

The potential of this intervention is even greater since it is a turn-key intervention, easily accessible and cost-effective.

The project could also have implications for pre-service and in-service teacher training (change of professional posture, development of pedagogical practices improving students' metacognition).

Educational policies research group

Mélanie MAXIMINO PINHEIRO



PhD Candidate in Psychology at the LaPsyDE (CNRS, Université Paris Cité)

LIEPP Affiliate

Grégoire BORST



Director of the LaPsyDE (CNRS, Université Paris Cité)
Professor of Developmental Psychology and Cognitive Neuroscience of Education

LIEPP Affiliate

Associate members :

- **Carlo Barone** (Director of the Educational policies research group - LIEPP ; Professor of Sociology - CRIS, Sciences Po)