Co-teaching for powerful mathematics education: A practice-oriented intervention using the 'Routeplanner Rekenen'.

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Introduction

The 'Routeplanner Rekenen' is a newly developed, practice-oriented tool that builds on previous research on co-teaching between primary school teachers and health care professionals in training (students from the bachelor programs in social educational care work and occupational therapy) in Flanders (Lockefeer & Zaman, 2024). That research demonstrated the added value of structured collaboration through co-teaching, but also highlighted the need for targeted support. The resulting tool, the general 'Routeplanner', helped professionals in training clarify their role as co-teachers and contributed to the development of teaching skills within inclusive classrooms. Moreover, the findings pointed to the need for further exploration of subject-specific applications—such as mathematics—and the involvement of in-service professionals. This follow-up project responds to both needs through the pilot implementation of the Routeplanner Rekenen in 2025.

The Routeplanner Rekenen aims to strengthen universal classroom support for mathematics through co-teaching between teachers and care professionals. The tool focuses on co-teaching preconditions (Fluijt, 2018; Meirsschaut & Ruys, 2017), the principles of needs-based and action-oriented education (Pameijer, 2018), and evidence-based practices for powerful mathematics instruction (Vandevelde, 2022).

Method

We are conducting a 12-week intervention study in 7 experimental and 2 control groups. The Routeplanner Rekenen is implemented through co-teaching between a third-grade teacher and a care professional (typically a care coordinator or support teacher) at the school. The research team monitors the implementation through weekly email updates and two online check-in sessions during the intervention period.

The study aims to address the following research questions:

- What is the impact of the Routeplanner Rekenen on teachers' skills for delivering powerful mathematics instruction, and is this impact sustainable?
- What is the effect of using the Routeplanner Rekenen on the mathematics skills of third-grade students?
- How do care professionals experience co-teaching in mathematics lessons supported by the Routeplanner?

To answer these questions, we use both qualitative and quantitative methods:

- One focus group with care professionals (N=6);
- Semi-structured interviews with teachers (N=7);
- Mathematics interviews ("rekengesprekken") with three students per experimental group (N=21);
- Standardized mathematics test results (LVS) from both experimental and control groups.

The coding of interview and focus group transcripts will be carried out in three phases using NVivo 14 software: open coding (assigning labels to text fragments), axial coding (exploring connections between codes), and selective coding (linking core categories to research questions). Raw scores from the LVS mathematics assessments will be processed in IBM SPSS Statistics 29.

At the time of submission, data collection is ongoing. Results and analysis will be available by November 2025.