



## Achieving Teacher Professional Growth Through a Focus on Making Students' Mathematical Thinking Visible

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This paper reports on a case study conducted with a teacher and her Grade 3 / 4 students who engaged in collaborative practitioner research, with a view to improving her practice. The case study was situated in a real educational context, and focused on the trial and evaluation of Liljedahl's (2021) teaching practices for enhancing learning. The two research questions that guided the study were:

- What teaching approaches facilitate mathematical thinking and make it visible?
- What changes in a teacher's professional growth can occur as an outcome of implementing these approaches?

Following collection of baseline data that showed her students were not demonstrating evidence of mathematical thinking, the teacher implemented teaching approaches designed to address this. The teaching approaches were adopted from Liljedahl's (2021) work and including the implementation of challenging tasks, random groupings and the use of vertical writing surfaces. Clarke and Hollingsworth's (2002) model of professional growth was used as theoretical framework for understanding how the teacher engaged with an external source of information (the researcher), undertook professional experimentation (implementation of teaching practices), observed salient outcomes (students' increased resilience), and experienced a shift in her knowledge, beliefs and attitudes.

The findings indicated the three approaches trialed by the teacher facilitated mathematical thinking and developed students' dispositions to attempt tasks, persist, and demonstrate resilience. Students were visibly observed to be on task, and non-thinking behaviours were reduced. The positive outcomes observed for students led to changes in the teacher's practice and professional growth. The study has implications for teachers who are looking to make changes to their practice based on evidence-informed teaching approaches.

### References

- Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teaching professional growth. *Teaching and Teacher Education*, 18(8), 947-967. [https://doi.org/10.1016/S0742-051X\(02\)00053-7](https://doi.org/10.1016/S0742-051X(02)00053-7)
- Liljedahl, P. (2021). *Building thinking classrooms*. Corwin Press.