

#MathsBookClubWA

Building Thinking Classrooms in Mathematics- Term 1 2023

By Peter Liljedahl

Mathematics Education Pedagogical Practices to build a thinking classroom.

With one of our best turnouts for Book club so far, Building Thinking Classrooms has put into place step by step practical instructions on how to turn your classroom into a thinking classroom. There are 14 teaching practices for enhancing learning outlined in the book and you are encouraged to implement at least the first three and then the rest

"Building Thinking Classrooms in Mathematics" by Peter Liljedahl is a practical and insightful book that provides step-by-step instructions for transforming a traditional math classroom into a "thinking classroom" encouraging critical thinking and collaboration among students with 14 teaching practices for enhancing learning. Book club members followed the author's recommendation to implement at least the first three practices outlined in the book to see immediate improvements in student outcomes.

Chapter 1 emphasizes the importance of starting the first five minutes of a lesson with a highly engaging thinking question (non-curricular) after that shift to scripted curricular tasks. Chapter 2 focuses on the benefits of frequently forming visibly random groups of three, which helps break down social barriers and increases enthusiasm for mathematics. Chapter 3 suggests that having students work on vertical non-permanent (VNP) whiteboard surfaces, with one whiteboard marker per group, can promote more risk-taking and prevent disengagement.

With examples of K – 12 curriculum and non-curricular tasks scattered throughout the book, macro and micro moves at the end of each chapter, as well as FAQ and reflective questions the practical advice and techniques described in the book are invaluable for teachers looking to prepare their students for the future by fostering critical thinking skills in the classroom.

Chapters 12 – 14 are worth noting as they explore what assessment looks like in a thinking classroom. The importance of evaluating what we value. What is it we value? "Regardless of geography, grade levels or professional development setting, the same three competencies appear every time: perseverance, willingness to take risks and the ability to collaborate", p209. Peter suggests that using rubrics is an optimal way to evaluate valuable competencies and discussed the need to shift from event-based grading to outcomes-based grading, which involves gathering information on specific outcomes or standards and using it to inform student learning. Helping students to see where they are and where they are going by constructing navigation instruments as shown on pages 235 – 240 and grading based on gathering observational and conversational data (not points) that demonstrate the outcome we want the student to achieve.

Overall, "Building Thinking Classrooms in Mathematics" seems like a valuable resource for mathematics educators looking to transform their classrooms into active and engaging spaces that promote critical thinking and collaboration among students. We highly recommend this book as a Mathematics Education 101 guidebook for all current and future educators of mathematics.