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*A Century of Leadership in Mathematics and Its Teaching*

**Developing and Supporting Teachers' Mathematical Pedagogy**

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# PREFACE

The Spring 2023 edition of the *Journal of Mathematics Education at Teachers College* presents three research-based articles that develop and support teachers' mathematical pedagogy. These are then followed by two short reports of contrasting scale: one an implementation of a non-traditional classroom and the other a historical look at a particular mathematics education movement.

Wade et al. open this issue with an investigation into how the Four Component Instructional Design (4C/ID) model can be fitted to support students' development of mathematical concepts. Specifically, using data from the FICSMath Project, the researchers developed a novel framework for supporting the transition from secondary precalculus and calculus to tertiary calculus based on Cognitive Load Theory and the 4C/ID model.

Next, Saclarides takes a more hands-on approach and examines the ways experienced mathematics teacher coaches model instruction for mentee teachers. The researcher performed a case study of one teacher-coach pair, focusing particularly on the interactions between teacher and coach and the scaffolding that occurred during a coaching cycle. The findings noted that verbal asides, written asides in lesson plans, and scaffolding during modeled instruction were important tools for meaningful teacher-coach interactions.

To close this issue, An et al. report on a case study using Mondrian-style art as a vehicle for improving the mathematics pedagogy of pre-service elementary teachers. Pre-service elementary teachers were tasked with creating their own Mondrian-style art pieces and reflecting on the pedagogy used in the activity. Their findings reinforce the utility of visual aids in supporting mathematics instruction while also presenting a unique method in which art and mathematics intersect to improve classroom pedagogy surrounding fractions and ratios.

Mr. Baldwin Mei  
Ms. Kaori Yamamoto

*Guest Editors*