

Units construction and coordination plays a vital, but perhaps presently underappreciated, role in attending to access (as a form of equity) in mathematics education. “Units coordination describes and accounts for how people construct and organize units, where units refer to discrete 1s or lengths. Units coordination is about how people read an organization of units, or a unit structure, into a situation prior to solving problems, and about how this structure influences their problem solving” (Hackenberg & Sevinc, in press). We respond to Steffe’s 2017 call on the field to develop curricula that take into account differences in how students construct and coordinate units, with the goal of supporting all students in constructing personally meaningful and productive understandings (of fractions, integers, combinatorics, measurement, algebraic equations, rate of change, and beyond). For each of these curricular areas, in addition to research about students’ learning, there is a need for related research regarding teaching and assessment.

By selecting research articles from a diverse range of grade levels and subject areas, each utilizing the constructs of units construction or coordination, the editors will seek to provide both novice and experienced readers of the special issue with opportunities to deepen their understanding of the role of cognition in mathematics curriculum development and pedagogy. We invite proposals for this special issue that relate to a variety of questions, issues, and topics around units coordination and construction, which could include but are not limited to:

- Assessment of children’s and adults’ units coordination and construction
 - Preschool, middle grades, secondary grades, undergraduates, prospective teachers, inservice teachers
- Relationships between units coordination and mathematical knowledge for teaching
 - Whole number, fractions, algebra, geometry, measurement, probability
- Role of technology in students’ units construction and coordination
 - Manipulative use, online software use
- Relationships between students’ units coordination and learning differences
 - Differentiated instruction, response to intervention, student-centered curricula
- Relationships between units coordination and measurement, fractions, or algebraic concepts in elementary, middle, secondary, or tertiary grades
- Relationships between units coordination and combinatorial, multiplicative, proportional, or covariational reasoning in elementary, middle, secondary, or tertiary grades

Submission Instructions

Authors are strongly encouraged to submit proposal abstracts to the guest editorial team at IMLunitsec@gmail.com; use the subject IML Proposal. Proposal abstracts should be submitted as pdf files and are limited to at most one (1) single-spaced page, including references, 12-point Times New-Roman font, and follow APA 7th edition.

Proposal abstracts should briefly problematize the topic, identify research questions, and describe relevant theoretical/conceptual frameworks, methods, results, and implications. Authors will receive editor feedback on proposal abstracts prior to submitting full papers for anonymous review. Please feel encouraged to email the guest editorial team with questions about topics and the submission process.

All IML submissions for the special issue are reviewed by a double-anonymous peer review process. Full papers for this special issue may be up to 35 pages in length inclusive of manuscript, references, figures, tables, and any ancillary information.

The editorial team for this special issue is Steve Boyce, Beth MacDonald, and Amy Hackenberg. Questions regarding this special issue should be sent to the editorial team at IMLunitsec@gmail.com. Jonathan Bostic (bosticj@bgsu.edu), editor-in-chief of Investigations in Mathematics Learning, will support the editorial team and oversee the publishing process of the special issue.

Timeline

Proposal Abstracts (optional) due to Editors: March 15, 2023

Full Article Submission: July 15, 2023 - August 15, 2023

Blind Reviews Returned to Authors: November 15, 2023

Author Revisions Due to Editors: January 15, 2024

Editor Feedback on Revisions to Authors: April 15, 2024

Final Versions of Articles Due to Editors: May 15, 2024