Number as Quantity in the Australian Curriculum

Jana Višňovská
The University of Queensland
j.visnovska@uq.edu.au

José Luis Cortina
Universidad Pedagógica Nacional, Mexico
jcortina@upn.mx

We analysed Version 9 of the Australian Curriculum: Mathematics, Foundation through Year 6 (Australian Curriculum, Assessment and Reporting Agency [ACARA], n.d.), by searching for presence and role of continuous and discrete quantities in how the notion of number is developed. The analysis is a case highlighting that some mathematical ideas that are central to teaching, and may seem obvious or common-sensical (Freudenthal, 1979, 1981), might, in fact, not be present in national curricula. This finding is of significance and requires research attention given that a curricular absence of a mathematical idea, shaping the form and content of teaching resources, is likely to carry into classrooms (Rezat et al., 2021).

In this round table, we justify the focus for this analysis by drawing on number conceptualisations that allow students to encounter fractions and whole numbers as the same kind of number (Bass, 2018; Cortina et al., 2014), and highlight the importance of quantity as a basis for the meaning of number in those conceptualisations (Chambris & Višňovská, 2022). We introduce the coding rubric we developed for this purpose and engage participants in the analysis, demonstrating how, in the analysed curriculum, attention to continuous quantities is highly restricted. Elsewhere (Višňovská & Cortina, 2025), we explained that this curricular stance has a historical connotation, suggesting that the phenomenon is likely to be found in many other countries. We also argued that the perpetuation of the largely forgotten historical rationale prevents such curricula from providing more adequate support for teaching and learning number.

We view this round table as an opportunity to debate the ideas related to the place of quantity in teaching and learning number with the participants. We hope to collate research literature, anecdotal episodes, and diverse classroom experiences to push our collective thinking about this curricular phenomenon.

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