

Editorial

The eighteenth issue of the journal *Didattica della matematica. Dalla ricerca alle pratiche d'aula* is characterized, like the previous issues, by the richness and variety of its contributions, which promote mathematics education as a lively and creative discipline open to critical reflection.

The articles in this issue emphasize in particular the role of teachers as promoters of meaningful and effective didactical paths, also capable of reviewing their own practices with a critical and reflective eye. The various contributions highlight different approaches taking into account laboratory dimension, bodily involvement, connection with territory and citizenship, as well as a constant focus on building shared meanings between the research and school worlds. The various proposals also promote active and conscious teaching of mathematics, allowing the discipline to be explored not only as a set of contents but, above all, as a set of fundamental skills for interpreting the complexity of the world.

The *Riflessione e ricerca* section contains three articles. The first contribution analyzes the markedly contrasting opinions of two Italian upper secondary school¹ teachers on INVALSI standardized tests, highlighting a tension that reflects the still open institutional challenge between objective assessment and personalized teaching and learning. The second contribution presents a research conducted with Italian teachers working in lower secondary school² who have been involved in a research community for several years; during research community meetings, firstly teachers designed together some activities about sun shadows and then they discussed them sharing the issues that arose during their own school lessons; the reflections analysis revealed the teachers' specialized knowledge about direct proportionality, which emerges to be in close intertwinement with their beliefs about its teaching and learning in lower secondary school. The third contribution, also available in English, offers a reflection on statistical graphs that can be designed to misleadingly influence readers' perceptions; the study, conducted with second-year students of a mathematics master's degree course in Italy, shows how targeted activities help potential future teachers to recognize misleading factors and understand the complexity of the interpretation process.

The *Esperienze didattiche* section contains four articles. The first contribution revisits a laboratory activity on graph theory aimed at lower secondary school students, based on Euler's Königsberg bridges problem, by introducing a dance-inspired motor activity to explore Eulerian paths; the experiment allowed for considerations on the development of problem-solving skills and on the role of embodied activities in learning mathematics. The second article proposes a didactical path on quadrilaterals experimented in a fourth-grade class with the aim of moving from the linguistic act of describing to the act of defining in the field of geometry; the path is analyzed in each of its phases, integrating linguistic and disciplinary considerations on the students' work. The third contribution recounts the experience that involved kindergarten children in the design of a new playground for their school; through exploration, model building and participatory design, the pupils developed geometric and citizenship skills, enhancing mathematics as a tool for interpreting and transforming the territory. The fourth article presents a didactical experience carried out in a seventh-grade class, focused on learning mathematics through realistic contexts related to the transportation field; the path made

1. The upper secondary school in Italy lasts five years and corresponds to the grades from 9 to 13.

2. The lower secondary school in Italy lasts three years and corresponds to the grades from 6 to 8.

the addressed mathematical concepts concrete and accessible, stimulating student motivation and developing mathematical skills and a positive view of the discipline.

We hope that reading this issue will inspire researchers, teachers and curious readers to interpret mathematics as a language for understanding, valuing and transforming the world. The experiences collected in this issue testify how beauty, utility and power of mathematics can exist at all school levels, from kindergarten to university. The aim is to create meaningful educational paths that encourage wonder, expertise, autonomy and critical thinking for the citizens of tomorrow, enabling them to understand the complexity of the world and contribute to its transformation with intelligence and responsibility.

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