

## Editorial

The journal *Didattica della matematica. Dalla ricerca alle pratiche d'aula* has come with satisfaction to its fourth issue, the last one related to the year 2018. Strengthened by the excellent results obtained in terms of downloading (almost 12000 users have downloaded the previous issues of the journal), the structure remains focused on the mutual relationship between research and didactic practices.

In the landscape of scientific research, mathematics education is relatively young as a discipline. Born in the field of mathematics, as mathematics applied to learning issues, it has received, since the 80's of the last century, extensive stimuli from different cultural domains. Numerous causes for reflection have come and continue to come for instance from philosophy, pedagogy, psychology, sociology and semiotics.

The research problems in mathematics education arise in the world of schools or universities, in those institutional mini-societies made by teachers and students who have (or would have) the primary social purpose to learn mathematics. Nevertheless, we know that, in this area, many problems arise, depending on various factors, which must be interpreted through different lenses, going beyond the individual discipline. The institutional mini-society of the classroom must be related to the school/university institution, and in turn with the current situation of the world and of the society in which we live. In this landscape, mathematics education cannot avoid questioning itself on how to develop and to integrate within the complex social dynamics with which it has to operate and cope with, being wide open to profit from the contribution of the other cultural domains. The issues related to the learning of mathematics therefore become the subject of study of the researchers who work in close contact with school teachers, with whom they identify the problematics and share the research results. It is actually from the interpretation of classroom reality that the real problems of learning arise, and it is good to rest on them in order to formulate research questions and hypotheses, to design and experiment interventions and practices aimed at students' learning. It is in this perspective that the journal wants to open its view to the different disciplines, creating a connection between research and classroom practices, between researchers and teachers, with the aim to reach students and the entire society.

In this issue, the section *Riflessione e ricerca* contains three articles that, in different ways, emphasize the teacher's role as a mediator of the students' learning process. The first article reports on an analysis conducted in Italy through an online questionnaire, whose object of investigation was the emotional relationship with mathematics and its teaching methods expressed by participants, some of which were teachers. The second article presents and discusses a didactic experience carried out in kindergarten, in which the teacher fosters the reflection on the bi-dimensional representation of Lego bricks through the drawing and the verbalization. Finally, in the last article of this section, a long-term teaching experiment in primary school allows the authors to present and discuss the framework of the Theory of Semiotic Mediation (TMS), developed from the seminal idea of semiotic mediation introduced by Vygotskij, in order to provide a model of teaching and learning focused on the semiotic process related to the use of cultural artifacts.

The second part of the journal, related to the *Esperienze didattiche*, presents four articles about very different topics related to issues with which teachers are in-

creasingly confronted. The first article deals with metacognition and mathematics: the described experience is centered on the desire that the students activate planning skills, continuous control and final evaluation through the use of logic games and the personification of metacognitive processes. The second article describes a didactic experience, carried out in a primary school in Ticino, with the aim of developing cooperation between pupils through the participation in the Transalpine Mathematical Rally. The third article focuses on spontaneous algorithms in multicultural classes, in which the presence of students from families of non-Italian culture and language becomes an instrument and an opportunity to build a mathematical knowledge available to all. The last article, finally, concerns a teaching experiment conducted in a 9th grade classroom, taking a basic course in mathematics, in Ticino; it is grounded on the proposal of realistic situations contextualized in the professions that the students claim to want to exert in the future.

Except for the third one, all the articles related to this last section are accompanied by attachments that make the experiences usable, adaptable and reproducible by teachers who want to implement the activities in their classes.

The richness and the depth of the contributions received by the editors of the journal spurs us to be definitely optimistic about the future of mathematics education: in the world of research and of teaching there is a desire to investigate, understand, design, experiment and invent. In this perspective, our purpose can only be to maintain the journal as an instrument to collect the numerous contributions and, in some way, to act as a sounding board.

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