

## Editorial

The eighth issue of the journal *Didattica della matematica. Dalla ricerca alle pratiche d'aula*, the second of this “hard” year 2020, brings with it some news that we hope our readers will appreciate. First of all, starting from this issue, the journal migrates to an online platform other than Wordpress, which has been used until now. After several months dedicated to the transition process, all content was implemented within the Open Journal System (OJS) platform. There are several reasons why we considered it appropriate to carry out the migration. First of all, through OJS the various contributions of the journal will be automatically indexed by search engines; this implies greater visibility, especially in relation to international contexts, and therefore greater tracking of contributions. Secondly, the OJS platform allows us to activate automated submission procedures for articles; in this way, the entire submission and review process will gain in traceability and operativeness. The transition to OJS also prompted the editorial board to review the layout of the website, articles and attachments, improving them from the point of view of usability and availability of information. In addition to this aspect, among the novelties foreseen for the section *Riflessione e ricerca* there is the possibility for each issue to publish an article also in the author’s original language, not necessarily English, and as far as *Esperienze didattiche* are concerned we have foreseen, when possible, to insert the attachments in a editable format so as to be more expendable for teachers.

In the *Riflessione e ricerca* section there are as always three articles. In this issue, the first contribution focuses on reflective argumentation as a tool to support formative assessment processes. The article proposes some reflections on the role that the teacher plays in implementing practices aimed at enhancing students’ argumentative processes; these reflections are based on the analysis of discussion excerpts taken from a teaching experiment conducted by the author in a grade 7 class of a lower secondary school in Italy,<sup>1</sup> and highlight the key interventions that the teacher can propose to stimulate reflective argumentation processes and activate specific formative assessment strategies. The second contribution proposes a series of theoretical and operational lenses, with which the author looks at logical-mathematical thinking and the skills necessary to operate with the positional decimal numbering system. After interweaving different theoretical frameworks, the author presents the idea of “ritual-aperitif”, i.e. a repeatable experience centered on role-play, learning through practice and research in the classroom; finally, he gives a specific example on arithmetic themes, related to the positional decimal numbering system: a playful, exploratory and partially guided arithmetic. The third contribution presents and analyses the results of the research-action project “*Evoluzione degli atteggiamenti verso la matematica e il suo insegnamento*”, a three-year project that focused on the analysis of the evolution of attitudes towards mathematics and its teaching by future primary school teachers in Canton Ticino. The starting point of the contribution is a well-established fact: the training of future primary school teachers in mathematics education is strongly influenced by affective factors, which are often linked to negative school experiences with mathematics. Based on this assumption, the authors have on the one hand designed and implemented training practices for the development of positive attitudes, and on the other hand have monitored and studied the evolution of these attitudes during the first two years of training.

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

In the section *Esperienze didattiche* there are four contributions, referring to compulsory and post-compulsory school. In the first contribution we present and analyze two didactic experiences aimed at grade 4 and 5 classes of primary school,<sup>2</sup> focusing on mathematical topics usually little explored at this school level: the interpretation of data and their graphic representations. The experiences presented in the article are part of a broader process, whose main aim was to contribute to the development of aware citizens who are able to use scientific tools to interpret the information available to them and to make well-founded decisions. The second contribution concerns geometric themes, approached with the help of the origami technique. The author illustrates a didactic path of geometry of origami partially realized with pupils of several grade 9 classes of an upper secondary school in Italy;<sup>3</sup> the path aims to encourage a reflection on the axiomatics of geometry and its ontological implications: the phases and the various activities that can be carried out are described, commenting and deepening everything with indications of possible developments. The third contribution concerns the Italian lower secondary school and focuses on the role of metacognition in problem solving. After highlighting how the difficulties encountered by the students in problem solving necessarily involve the theme of metacognition, the authors describe a learning path aimed at grade 8 students, thanks to which it was possible to strengthen the metacognitive aspects involved in the problem solving's process by the students. Finally, in the fourth contribution we come back to an Italian primary school with the theme of plane geometry. The article describes a teaching experience carried out in a grade 5 class, whose aim was to enable pupils to activate their cognitive potential in facing geometric situations where they were asked to plan strategies for calculating unknown areas of geometric figures. The tasks highlighted how close the relationship between language and iconic and figurative aspects is and how this can be discussed with the students.

In thanking all the authors who, with their commitment, dedication and expertise, have written the articles in this issue, it is important on this occasion to remember also those who have allowed the journal to migrate to its new digital form. In particular, the members of the editorial team belonging to the *Centro competenze didattica della matematica* who have been actively involved in the various aspects of this transition; SUPSI Research Manager Giambattista Ravano for the financial contribution; DFA Director Alberto Piatti for the constant support; Head of the Firenze University Press Journals Alessandro Pierno for the precious and indispensable guide; *Servizio comunicazione* DFA, in particular the Head Claudia Di Lecce and graphic designer Jessica Gallarate; SUPSI informatic technician Domenico Zecchinelli for solving all technical implementation problems.

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2. The primary school in Italy lasts five years and corresponds to the grades from 1 to 5.

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