

# Editorial



## THEMATIC EDITORS

- Dra. Adriana Breda, Universitat de Barcelona (España)
- Dr. Luis R. Pino-Fan, Universidad de Los Lagos (Chile)
- Dra. Belén Giacomone, Universidad de la República de San Marino (San Marino)

## EDITOR-IN-CHIEF

- Dr. Jaime Padilla-Verdugo, Universidad Politécnica Salesiana (Ecuador)

This Monographic Section of the Journal “Alteridad” presents research related to the processes of teaching and learning mathematics, carried out in different contexts and educational levels and with different theoretical approaches. The objective, besides sharing the possibilities and limitations of experiences developed in the field of teaching and learning mathematics in different contexts, is to contribute to the analysis and discussion of theoretical and practical aspects related to the processes of teaching and learning mathematics, as well as research results of processes used in different contexts, from the most elementary educational levels to those of Higher Education and Graduate Studies.

Among the papers presented, the first two articles are focused on the analysis of teaching and learning processes in the field of Early Childhood Education in the Spanish context; the next two refer to the analysis of mathematics teachers’ knowledge, one with future mathematics teachers in the Brazilian context and the other with effective mathematics teachers in the Colombian context. The last article seeks to study the teaching and learning processes of a group of High School students in Portugal.

The first article of the Monographic Section “Influence of the teaching context on pattern representation in early childhood education” analyzed, by means of the Mathematics Teaching Itineraries Approach, how the teaching context influences the tasks with repeating patterns in a group of preschool students in Spain. The conclusion of the study is that the teaching context influences the understanding of repetition patterns and a teaching of the patterns from the situational to the formal level is recommended.

At the same educational level of Early Childhood Education, the manuscript “Mathematical representations of 5–6-year-old children when solving an open problem” sought to describe the representations and forms of solution posed by a group of children in a Catalan school, when solving an open arithmetic problem. The results indicate that all participating students elaborate iconic representations, and some combine iconic and symbolic representations to solve the problem.

Regarding the knowledge that mathematics teachers should have for an adequate teaching of mathematics, the article “Didactic-mathematical knowledge mobilized by future mathematics teachers”, by means of the Didactic-Mathematical Knowledge model of the Ontosemiotic Approach, analyzes the knowledge mobilized by future mathematics teachers in Brazil when solving tasks focused on topics related to Financial Education, concluding that the mobilization of didactic knowledge was satisfactory only in the cognitive aspect, and was partial in the other aspects of the model. Likewise and using the same model of teacher knowledge, the article titled “Didactic-mathematical

knowledge of some teachers about prime numbers” analyzes the didactic-mathematical knowledge of Colombian teachers when developing teaching and learning situations about prime numbers, concluding that, although there are elements that evidence the teachers’ knowledge of prime numbers, the teachers fail to give students a broad vision of the meaning of these numbers because they do not know the cognitive and epistemic elements that make possible their management in the classroom.

Finally, based on a qualitative methodological approach, the article “Learning of logarithmic functions of 12th grade students with modeling tasks” characterizes and identifies the difficulties of Portuguese High School students when solving mathematical modeling tasks related to the logarithmic function. It is concluded that, although the students have performed the modeling tasks understanding the application of a complete modeling cycle, they presented difficulties in the properties and characteristics of the logarithmic function, as well as in the use of the graphic calculator.

This monograph is an excellent contribution for researchers and teachers interested in looking for tools to analyze and assess the teaching and learning processes of mathematics in different subjects, educational levels and contexts.

The articles in the Miscellaneous Section address various topics related to creativity and its variables linked to education, academic performance related to self-efficacy and procrastination, positive parenting and self-regulation of learning; and finally, the situation of the Masters in Esmeraldas, Ecuador.

The first article offers a mapping on “Creativity and related variables according to educational stage”: pre-school, elementary, high school, and university studies. Creativity is a topic increasingly addressed in the educational field. Guided by the PRISMA statement, the search was conducted using Dialnet Plus and Web of Science databases. The findings show that intelligence and academic performance are the most studied variables at all educational levels; however, pre-school and elementary school levels focus on the control of emotions and personality, while high school level analyzes problem solving; and the university level focuses on thinking studies.

The following article “Creative education and social justice” is a systematic review that is new and relevant to the Latin American context. The authors, following the criteria of Sánchez-Meca (2010) and Prisma (2009), conducted a search in Web of Science, Scopus, SciELO and Dialnet. In terms of originality, the authors highlight the low number of publications on the subject, particularly in the Latin American context. The article is the first step to raise an emerging issue, the problem of education based on creativity from the perspective of social justice.

Non-cognitive factors of academic success are at the forefront of educational research. In this sense, the third manuscript “Self-efficacy, procrastination and academic performance in university students in Ecuador”, is an interesting topic with great potential: it is undoubtedly important in the contexts of high school and university education, since it is in this evolutionary moment of the person in which self-perception problems are most frequent, and in which procrastination becomes a defense mechanism. The authors show that both self-efficacy and academic procrastination have an impact on academic performance, specially at the beginning of professional university training, and especially in private institutions. The study also highlights the social inequalities, sometimes unattainable for the poor, with certain opportunities offered by private institutions.

The manuscript “Positive parenting and self-regulation of learning in adolescents”, conducted in the city of Cuenca (Ecuador), determines the role played by parental support for autonomy and self-regulation of learning. The results reveal that positive parenting is a factor that promotes self-regulation of learning, with satisfactory academic results. The conclusion shows “the need for close family-school collaboration”. The Self-Determination Theory (SDT) could be new and relevant to propose new studies with other variables, such as, for example, the use and dependence on ICTs.



The study on “Multigrade teachers in Esmeraldas (Ecuador)” is not only interesting but also worrisome. First, in addition to teaching activities, it highlights the fact that teachers must conduct administrative and logistical activities for the operation of the school. The core of the concern is the political and institutional neglect, in addition to racial, regional and gender discrimination, even by the rural community. The commitment to education, the solidarity of teachers, and the self-management for their professional updating seem to be insufficient to achieve the ideals of good living.

The use of ICT in education, although it can bring out inequities due to the availability or not of technological resources and Internet connection, is characterized by being flexible, adjusting to the diverse realities and circumstances of the students, allowing online and asynchronous learning; thus, solving the commute problem to the school at least for those who work and study; however, its use also involves risks and possible challenges, such as its attachment and dependence to the point of being most of the day using social networks, entertainment platforms, videos, among others, which can be detrimental not only to meaningful learning, but also to the integral formation of young people. Precisely, the Call for Papers for the next issue is about “Responses of educational institutions to the addiction to technologies”. Authors are invited to send their manuscripts to *Alteridad*.

