

Editorial

This sixteenth issue of the Latin-American Journal of Astronomy Education is meaningful for several reasons. For the sixth consecutive year we have achieved two issues in a year, consolidating this periodicity.

We have presented the work “The Latin American Journal of Astronomy Education (RELEA): contributions and perspectives” at the XIV Latin American Regional IAU Meeting (LARIM), held on Nov. 25-29 in Florianópolis (SC) <http://www.larim2013.org.br/>. This work showed the results of an analysis of the works published by the RELEA since its first issue until now. In addition to a discussion of the contributions to the field, the perspectives aiming an increase of the number of articles, the divulgation of the journal and a higher share of Latin-American authors were addressed. The [pdf file](#) of the presentation can be accessed and the abstract itself found in the Abstract Book, p. 187 at the address: <http://astro.ufsc.br/larim2013/files/LARIM2013-Abstracts-Book.pdf>.

Another relevant news is the launching of the book “*Games for teaching astronomy*”, edited by one of us (PSB). The book presents a proposal to aid the teaching of astronomy by offering didactical resources in the form of games, posing the ludic as a potential tool for learning.

In this issue we have five research articles:

The shadow of a gnomon along a year: routine observations and teaching of apparent motion of the sun and the four seasons, by Anderson Giovani Trogello, Marcos Cesar Danhoni Neves and Sani de Carvalho Rutz da Silva. This article presents the results of the observation of the apparent motion of the Sun using the registration of the shadow of a vertical *gnomon* vertical by sixth grade students of a Paraná state school. The project was carried out with observations near the equinox and solstice dates and theoretical lessons. The results showed an effective learning of the students about the cardinal points, the solar motion and the seasons from the observations performed at naked eye.

Teaching of astronomy: scenarios of teaching practice in elementary schools, by Sônia Elisa Marchi Gonzatti, Andréia Spessatto De Maman, Eliana Fernandes Borragini, Júlia Cristina Kerber and Werner Haetinger. This work discusses the results of an investigation with elementary school teachers in two regions of the Rio Grande do Sul state. The goal of the study was to characterize the regional scene, establishing a comparison with the national situation and identifying the main astronomy subjects addressed in the classrooms, the methodological strategies and the difficulties evidenced by the teachers.

Establishing the empirical relationship between non-science majoring undergraduate learners’ spatial thinking skills and their conceptual astronomy knowledge, by Inge Heyer, Stephanie J. Slater and Timothy F. Slater. This research article deals with astronomy learning and the relation between the conceptual domain and spatial reasoning. The research was performed involving undergraduate students of a non-major introductory astronomy survey class in a mid-western US university by means of a diagnosis of astronomy concepts and spatial reasoning. The tools included the *Test Of Astronomy Standards (TOAST)*, the questionnaire *What do you know?* and a specific instrument designed to measure the spatial reasoning of the students. The correlations between results show the positive relationship between the spatial reasoning and astronomical knowledge through their performance.

On the formation of a study group to the realization of workshops for teachers: astronomy in basic education in Umuarama-PR, by Diane Belusso and Otávio Akira Sakai. In this text, the activities developed by the Grupo de Estudos de Astronomia (GEA) and the realization of courses for teachers linked to the Núcleo Regional de Educação de Umuarama-PR were discussed. The courses and this research promoted the direct contact of the GEA group with members of the community. The results are useful as a diagnostic of the knowledge and interest of the students towards astronomy.

Lunar phases and earthly events: beliefs from different education levels, by Luiz Marcelo Darroz, Cleci Teresinha Werner da Rosa, Patrick Alves Vizzotto and Álvaro Becker da Rosa. The article presents the result of an investigation performed with a group of people to identify which terrestrial events were attributed by them to the lunar phases. The results showed that the Moon and its phases continue to fascinate and interest the population. However, the lack of knowledge to explain away the phenomena that occur with the Moon gives rise to a set of beliefs about its influence.

In this issue we publish again a book review:

Games for Teaching Astronomy, by Paulo S. Bretones (Ed.). The review, written by Marcos Daniel Longhini, introduces the three chapters of the book. The first is dedicated to discuss aspects related to the landscape of the astronomy teaching and how the ludic elements could contribute to its improvement. The second chapter offers ten games employing cards, boards, dice, etc. Finally, the third chapter includes a discussion and suggestions about electronic games related to the subject.

More information about the journal and instructions for authors are listed in the site: www.relea.ufscar.br. Articles may be written in Portuguese, Spanish or English.

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