

## Editorial

This nineteenth number of the Latin American Journal of Astronomy Education (RELEA) is significant for several reasons.

Recently, the RELEA has been indexed in The SAO/NASA Astrophysics Data System (ADS) and in Google Scholar, facts which should contribute to the divulgation and consolidation of the journal. We thank again Mr. Walison Aparecido de Oliveira for this achievement.

We also inform that the Proceedings of the *III Simpósio Nacional de Educação em Astronomia* (III SNEA) will be available soon in the site: <<http://www.sab-astro.org.br/IIISNEA>>. The contents of the sites and the Proceedings of the I and II SNEAs will be transferred to the site of the SAB, in this way unifying the whole system.

In the present number we feature six articles:

*Applying experiments designed to an extension course in astronomy for high school students* (Análise de experimentos desenvolvidos em um curso de astronomia para alunos do ensino médio), by Ricardo Meloni Martins Rosado and Aline Tiara Mota. This text discusses some experimental activities performed at an extension astronomy course for high school students of a city in Minas Gerais state, Brazil. The activities are described and some suggestions of utility for professors made.

*Size of the planets, Pluto and the sun and the distances between them: students' understanding and low-cost educational workshop to elaborate this topic* (O tamanho dos planetas, de Plutão e do Sol e as distâncias entre estes: compreensão dos alunos e oficina pedagógica de baixo custo para trabalhar esta temática), by Marcos Antônio Paz Macedo and Micaías Andrade Rodrigues. This article investigated the understanding of the students the Elementary school of the dimensions and distances between Solar System bodies in a class of 22 students from 5th to 9th grade. After a previous test in the form of a questionnaire, a workshop explaining these subject was held in which the students made a model of Pluto, the planets and the Sun using simple materials. Finally, the questionnaire was applied again and it revealed a significant improvement in the understanding of the contents.

*Science at schools: observation and analysis of a partial solar eclipse* (Ciência nas escolas: observação e análise de um eclipse solar parcial), by Leonardo Barbosa Torres dos Santos, Everaldo Faustino dos Santos and Leonardo Oliveira das Neves. The aim of this work is to stimulate the observation of solar eclipses with didactic purposes. From the photographic registers of the students, the eclipse parameters were determined analyzing the images and the results compared to the predictions. Descriptions of the methodology and resources employed in the observations are also made.

*Cultural astronomy in elementary and secondary school* (Astronomia cultural nos ensinos fundamental e médio), by Luiz Carlos Jafelice. This work is targeted to professors and educators of several disciplines and discusses the importance of adopting an anthropological perspective when dealing with astronomy contents. It contains proposals to introduce cultural astronomy in the Elementary school and non-formal spaces. Practical suggestion to introduce the contents of indigenous and african-brazilian contents in the curricula are given. This proposal is made in the general context of holistic and

transdisciplinary ambient education, and prioritizes the experience within a holistic and humanistic education, ample enough to embrace epistemological and cultural diversities.

*The concept maps as a didactic resource tool of meaningful learning in astronomy themes* (O mapa conceitual como recurso didático facilitador da aprendizagem significativa de temas da astronomia), by Felipa Pacífico Ribeiro de Assis Silveira and Conceição Aparecida Soares Mendonça. This article describes the results of an investigation of the use of the concept map (CM) as a didactic resource to improve the significant learning of astronomical concepts for Elementary school students. The methodology for the gathering and handling of data received a quantitative and qualitative treatment. In the quantitative aspect a control group and an experimental group (the latter using the CM) were evaluated at the beginning and end of the process and the performance of the groups discussed in a descriptive and analytic way. In the qualitative approach, the CM were interpreted from the point of view of the meaning shared and attributed by students. The results show that the CM makes a difference in the conceptual learning and abilities measured by the learning parameters.

*The Earth's shape and movements: teachers' perception of the relations between daily observation and scientific models* (A forma e os movimentos da Terra: percepções de professores acerca das relações entre observação cotidiana e os modelos científicos), by Flávia Polati Ferreira and Cristina Leite. In this work, an investigation about the perceptions of professors between empirical data and scientific models related to the shape and motions of the Earth are presented. The data was obtained during a teacher's course held in São Paulo city, and referred to the Three Pedagogical Moments and related ideas of Paulo Freire. The results show that only a small fraction of the professors seems to understand the relations between "apparent contradiction" and "limitation" using spatiality concepts, and many of them argued these relations based on vague speeches and "buzzwords". The difficulties of the professors to relate the observations with models indicate the need to include astronomical observation in their formation graduate courses.

More information about the Journal and instructions for authors listed in the address: [www.relea.ufscar.br](http://www.relea.ufscar.br). Articles may be written in Portuguese, Spanish or English.

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