

Editorial

The Latin American Journal of Education in Astronomy (RELEA) reaches its thirtieth number.

Even in a difficult year because of the pandemic, we had a high number of submissions compared to previous years. We are publishing 7 articles in this edition and 13 this year, the highest numbers so far, leading to a total of 135 articles. We expect this trend to consolidate in 2021.

As informed in the editorial of the previous edition, in this edition we already include in each article the so-called ORCID ID code (Open Researcher and Contributor ID, <http://orcid.org>). In addition, we are already using the American Psychology Association (APA) Reference Standards.

In this issue we publish seven articles:

Representação das dimensões astronômicas em livros didáticos de ciências no âmbito do Ensino Fundamental II (Representation of astronomical dimensions in science textbooks within the scope of middle school education), by Francielle Pereira da Silva, Zenaide de Fátima Dante Correia Rocha and Alcides Goya. This article analyzes various forms of representation, in six PNLD 2017 Science Textbook collections, about distances and diameters of the stars. It was found that the average number of pages dedicated to Astronomy was proportionally low, that the number of tables, tables and graphs was lower compared to photographs, and more than 25% of the illustrations appeared with inadequate proportions and without explanations. A class activity class is also proposed by the authors and their results presented.

O episódio da queda do meteorito Serra de Magé numa abordagem de ensino de Astronomia (The episode of the fall of the Serra de Magé meteorite in an Astronomy teaching approach), by Nadine de Oliveira, Alexandro Cardoso Tenório and Antônio Carlos da Silva Miranda. The article addresses the episode of the *Serra de Magé* meteorite fall as a tool to favor scientific learning. A teaching proposal was applied in a dialogue with students from a school in the state of Pernambuco, using audiorecording to collect data, analyzed later by Discourse Analysis. The results showed that the subject can contribute to the motivation, enthusiasm, curiosity, attention and involvement of students in the face of the addressed episode.

Uma pesquisa diagnóstica sobre o periélio e afélio: um estudo com licenciandos em Geografia (A diagnostic research about perihelion and aphelion: a study with undergraduate students in Geography), by Edson Ribeiro de Britto de Almeida Junior and Camila Muniz de Oliveira. In this work, a diagnosis is made of the conceptions of students of the Geography degree course, of a Paraná state university, about earthly perihelion and aphelion in order to understand the seasons. Data analysis was carried out in a qualitative perspective, with a diagnostic character, through a questionnaire and Textual Discursive Analysis. Most students know the positions of aphelion and perihelion, but few explain them correctly and the speeches present alternative concepts indicated in the research.

Cálculo do valor da Unidade Astronômica: como o trânsito de Mercúrio nos indica a nossa distância ao Sol (Calculating the value of the Astronomical Unit: how the transit of

Mercury indicates our distance to the Sun), by Alessandro Martins, Thiago Oliveira Lima, Maurício José Alves Bolzan, Phablo de Araujo Sousa, Valdinei Bueno Lima Filho, Alexandre Pancotti, João Carlos de Moura Castro Neto. This work presents a proposal for determining the Astronomical Unit (AU) through experimental data obtained by the 2019 Mercury transit with students from a Brazilian school in cooperation with an international institution. The register of the transit made possible to determine the value of the AU and can be used by educators as a motivating element. The activity allows to apply experimental data, to develop geometric constructions, trigonometry, ratios and proportions, Kepler's Laws, geographic coordinates and geolocation, demonstrating in a practical way the interdisciplinarity to the students.

Estratégias metodológicas para o ensino de Astronomia em cursos de formação de professores nas publicações do SNEA e da RELEA (Methodological strategies for teaching Astronomy in teacher formation courses in SNEA and RELEA publications), by Daniel Trevisan Sanzovo, Maria Luiza Cavalcante Gonçalves, Vanessa Queiroz and Lucken Bueno Lucas. The work aimed the mapping articles published by the *Latin American Journal of Education in Astronomy* (RELEA) and by the *National Symposium on Education in Astronomy* (SNEA) on the use of methodological strategies for the training of science teachers. From a qualitative perspective, the research investigated the data from Content Analysis. As a result, fifteen categories were obtained, which showed the variety of teaching strategies and the scarcity of publications related to the subject.

Atividades investigativas na formação inicial de professores: o movimento aparente do Sol no céu e a duração dos dias e noites (Investigative activities in the initial training of teachers in Astronomy: the apparent movement of the Sun in the sky and the duration of days and nights), by Wesley Quintiliano Vidigal and Sérgio Mascarello Bisch. This paper reports the application of two investigative activities carried out with undergraduate students in Biological Sciences, future Science teachers, in a short course in Astronomy. The activity on the daily motion of the Sun was implemented through an investigative demonstration, using the software *Stellarium*. The second activity, about the variation of the length of the day, was conducted in the form of an open laboratory, and the students collected the data. The activities showed good participation and interaction by the students and the data indicate the learning of concepts and provided the experience of procedures and attitudes characteristic of a scientific investigation.

A educação em Astronomia na era digital a partir da nova BNCC: convergências e articulações (Astronomy education in the digital age and the BNCC: convergences and articulations), by Renata Sá Carneiro Leão and Maria do Rocio Fontoura Teixeira. This article brings bibliographic contributions for a better understanding of the generation immersed in a digital culture and its relationship with education in Astronomy, based on the new National Common Curricular Base (BNCC) of Brazil. It points out that combining digital tools with celestial observation sessions, contemplation of the night sky, historical research on native peoples and contents relevant to the understanding of humanity and their role in the Universe can be one of the paths towards an education that contemplates the dimensions of contemporary times.

More information about the Journal and instructions for authors can be found at: <www.relea.ufscar.br>. The articles can be written in Portuguese, Spanish or English.

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