

# INTRODUCTION TO ASTRONOMY DIDACTICS FOR BASIC EDUCATION TEACHERS USING THE DIARY OF THE SKY AS A METHODOLOGICAL STRATEGY

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This study we are presenting, is part of the subproject titled *The Sky of North and The Sky of South: A cooperative experience between Brazil and Italy*, of the CAPES/PrInt Project for the internationalization of scientific research, of the Graduate Program in Science Education, School of Sciences, UNESP, Campus de Bauru, São Paulo, Brazil, in academic partnership with the Università “La Sapienza” di Roma and the Movimento di Cooperazione Educativa (MCE) di Roma, Italy. This is a study within the scope of teacher training for the teaching of Astronomy, especially for the didactics of Astronomy, for students in the early years of Basic Education (Langhi & Nardi, 2012). The initial proposal came from one of the stages of a broader research (Fernandes, 2018), with the translation and adaptation of the didactic material *Il Diario del Cielo* (Lanciano, 2013), of Italian origin, for use in the tropical belt of the Southern Hemisphere, especially for the geographic coordinates of the region of Bauru, Sao Paulo, Brazil (Lanciano et al., 2019a). *Il Diario del Cielo* is the result of the experience of Professor Nicoletta Lanciano (Università “La Sapienza” di Roma, Italy) in teaching higher education and is organized based on the results of the research and teaching activities of Astronomy, developed within the scope of the Gruppo de Ricerca sulla Pedagogia del Cielo, from MCE, in Italy. It consists of material in the format of an astronomical school diary, to work with astronomical phenomena concepts, starting from a sequence of activities developed according to the bases of Observational Astronomy. Students and teachers are challenged to record daily, during the school year, data from direct observation of astronomical phenomena, such as hypotheses, inferences, comments, impressions and reflections, questions, suggestions for similar content to be researched, information for further checking, images, among other class and extra class annotations.

The implementation of the didactic resource *The Diary of the Sky* seeks to provide educational situations that involve elements of direct and continuous observation of the sky and surroundings, activities with explanatory didactic models, work in a natural and outdoor environment, and the use of low-cost material resources (Fernandes, 2018), allowing students to continue to gain familiarity with astronomical phenomena. This subproject has provided, in the last six years, in its different annual editions of the course, called *The Diary of the Sky - Introduction to Astronomy Didactics for Basic Education Teachers*, the upskilling of dozens of teachers working in Basic Education, linked to the Bauru Municipal and State Education Departments, in basic astronomy notions and, by extension, to hundreds of elementary school students. Using the Diary of the Sky every day, students follow and note the positions of the stars in relation to the horizon, the position of the shadow itself, or the shadows of objects projected on the ground, for example. Students complete, in three-dimensional space and in real time, daily recordings of their own discoveries, giving greater meaning to concepts that involve, for example, day and night phenomena, seasons or phases of the moon. In this sense, the work with *The Diary of the Sky* helps to put in dialogue what is observed daily in the here and now with the conceptual, cognitive and historical-cultural aspects linked to Astronomy and its teaching (Lanciano, 2019b).

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