

Astronomy in the Education Area: A Narrative Review

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Abstract : The importance of astronomy for humanity is unquestionable. Despite being a robust science, capable of bringing new discoveries every day and quickly increasing the ability of researchers to understand the universe more deeply, scientific research in this area can also help in various applications outside the domain of astronomy. The objective of this study was to review and conduct a descriptive analysis of published studies that presented the importance of astronomy in the area of education. A narrative review of the literature has been performed, considering the articles published in the last five years. As astronomy involves the study of physics, chemistry, biology, mathematics and technology, one of the studies evaluated presented astronomy as the gateway to science, demonstrating the presence of astronomy in 52 school curricula in 37 countries, with celestial movement the dominant content area. Another intervention study, evaluating individuals aged 4-5 years, demonstrated that the attribution of personal characteristics to cosmic bodies, in addition to the use of comprehensive astronomy concepts, favored the learning of science in preschool-age children, considering the use of practical activities of accompaniment and free drawing. Aiming to measure scientific literacy, another study developed in Turkey, motivated the authorities of this country to change the teaching materials and curriculum of secondary schools after the term "astronomy" appeared as one of the most attractive subjects for young people aged 15 to 24. There are also reports in the literature of the use of pedagogical tools, such as the representation of the Solar System on a human scale, where students can walk along the orbits of the planets while studying the laws of dynamics. The use of this tool favored the teaching of the relationship between distance, duration and speed over the period of the planets, in addition to improving the motivation and well-being of students aged 14-16. An important impact of astronomy on education was demonstrated in the study that evaluated the participation of high school students in the Astronomical Olympiads and the International Astronomy Olympiad. The study concluded that these Olympics have considerable influence on students who pursue a career in teaching or research later on, many of whom are in the area of astronomy itself. In addition, the literature indicates that the teaching of astronomy in the digital age has facilitated the availability of data for researchers, but also for the general population. This fact can increase even more the curiosity that the astronomy area has always instilled in people and promote the dissemination of knowledge on an expanded scale. Currently, astronomy has been considered an important ally in strengthening the school curricula of children, adolescents and young adults. This has been used as teaching tools, in addition to being extremely useful for scientific literacy, being increasingly used in the area of education.

Keywords : astronomy, education area, teaching, review

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