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IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
New Worlds - Non-Traditional Space Education and Outreach (7)

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HANDBOOK OF STRATEGIC-DIDACTIC TEACHING OF SPACE SCIENCES TO CHILDREN WITH AUTISM SPECTRUM DISORDER

Abstract

Autism Spectrum Disorders (ASD) affect the development of people with autism causing significant social, communication and behavioral problems. Autism affects 1 in 160 children according to World Health Organization (WHO 2021) assessments. It is known that autism has no cure, but a variety of therapies have been implemented to alleviate symptoms and improve the patient's quality of life, which help to reach their maximum developmental potential.One of the characteristics that usually stands out in many people with Autism Spectrum Disorders are their obsessions and interests in space sciences, such as astronomy. Thus, a strategic and didactic plan has been implemented for the learning of astronomy in children with autism where cognitive skills are developed, which are the skills and processes of the mind necessary to perform a task, they are also the workers of the mind and facilitators of knowledge to be responsible for acquiring and retrieving it for later use.This teaching handbook works on behavioral problems that address social skills, in addition to teaching programs focusing on learning skills and methods for an integrated life. This teaching strategy is focused on children with autism from 6 to 11 years old, where technological tools are implemented such as video games and virtual and augmented reality (VR and AR) with a space theme that stimulates the development of cognitive skills in an attractive, educational and innovative way with the objective of helping children to reason, make decisions, orient themselves and improve their attention span or coordination.The thematic areas addressed are attention, abstraction, reasoning, and memory, as well as reading and writing, all related to the teaching of the solar system, the cosmos and aerospace history, forging in children a taste for research and science. This teaching manual has been implemented in a focus group of 30 people with autism spectrum disorder in Durango, Mexico, obtaining significant changes in their behavior, increasing their learning and interest in space.