

Teaching astronomy to students based on culture, literature, architecture and art

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Introduction

Students are curious about their surroundings and since they spend a lot of time at school, they frequently ask their teachers questions about the world and space. It is necessary that teachers in different grades respond to this curiosity of students and make them interested in astronomy so that students know astronomy better and realize the importance of its application in life. Teachers can inform students about the relationship between astronomy and art, literature, history and architecture, so that students understand the importance of the relationship between astronomy and human life since ancient times.

This article examines the projects and activities carried out by students and teachers on how students can learn astronomy through Iran's culture, literature, art, history and architecture.

Literature

Astronomy can be taught to children through literature. Teachers can use poems, stories and legends of their own land and other countries and teach different astronomical concepts to their students at a young age. For example, in Iran, we use the poems of Manochehri Damghani, who brought astronomical beliefs and events into his poetry about a thousand years ago. He has a poem with the theme that the Big Dipper revolves around the Pole Star and its movement is like the movement of a rope in the hand of a left-handed person. When the teacher reads this poem to the students, at first they get a background about literature; Then the students notice how the Ursa Major constellation moves around the Polaris. We ask the students to take a rope in both hands and twist both hands. A little later, we want them to pay attention to the way they move both their hands. The way the rope moves in the left hand is exactly like the movement of the Big Dipper around the Polaris and it is counterclockwise.

Culture

Astronomy has had a significant impact on people's lives for a long time. If students are aware of the connection between culture and astronomy, they will be very eager to learn astronomy. For example, the Iranian calendar is an astronomical calendar; which the first day (Nowrooz) is equal to the March equinox.

Therefore, we are celebrating four important events of Iranian culture at the Mehr Observatory together with the ADIS (Astronomy day in school) working group. In this event, students who gather from different countries get to know the four events of Nowruz, Tirgan, Mehrgan and Yalda, and learn the concept of solstices and equinoxes. In these events, Iranian students talk about their culture from thousands years ago until now, draw pictures, read poetry and perform rituals related to them.

Art

Art helps to develop children's creativity, problem-solving ability, self-confidence and strengthen their communication and concentration. Therefore, we should not ignore the significant impact of art on learning astronomy.

If learning astronomy is accompanied by making crafts, painting, drama, story writing and other arts, deep learning will be formed in students. students can simulate different concepts creatively; such as constellations, solar system, galaxies, etc. and making models, drawing pictures or telling stories for them.

Architecture

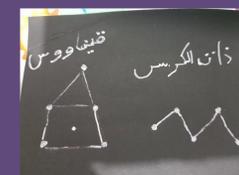
Since astronomy plays a significant role in architecture and construction of various buildings, It is better for students to get acquainted with this type of architecture. For example, Chartaqis in Iran are buildings that were built thousands of years ago, and some of them are used in calendars and work in equinoxes and solstices days. In addition, we can show students the cities that built their houses according to the angle of the sun in different seasons.

For instance, in Bushehr, one of the southern cities of Iran, which is close to the Tropic of Cancer and is very hot in the summer, houses have been built facing north or south for a long time, both because the sun does not shine directly and for That the winds blowing from the north and south will cool the building. In this case, we ask the students to design a plan of a building according to the climate of a certain region.

Conclusion

After years of teaching astronomy to students, we realized that when we use different sciences to teach astronomy to students, they become more eager to learn and this method can help discover their talent.

Photos



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