

REPRESENTATION OF ASTRONOMY IN GEOGRAPHY CURRICULUM AND IN EXTRACURRICULAR ACTIVITIES

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Abstract. I have been working in Primary School “Vasa Živković” in Pančevo for a last twenty years. My mission is to provoke student’s attention by creative lectures, interactive talks, hands-on activities and projects. Main goal of these activities is to make geography and astronomy subject interesting and comprehensive to all children. Presenting geography as a multidisciplinary science which is deeply correlated to astronomy, I try to prepare my students to think “out of the box” and to transfer their knowledge between social and natural sciences. This work points out representation of astronomy in fifth grade geography curriculum as well as extracurricular activities of school astronomy section.

GEOGRAPHY CURRICULUM WITH ASTRONOMICAL CONTENT

The fifth grade geography curriculum has 20 from total 36 lessons correlated to astronomical content. First part is in the textbook chapter *The Universe and the Earth* and includes lectures: The Universe – Stars, Constellations, Galaxies, The Milky Way; The Solar system – The Sun and the planets; Satellites – The Moon, Lunar Phases, Small Solar System Bodies, The size and shape of the Earth. The second part is the chapter *The Planet of Earth* that includes study of Earth’s movement and Earth’s layers. To imagine the Universe and celestial body motion in it, plain textbooks are not enough. We assumed that new terms and new study subject should not be presented to children by plain talking, but with problem solving and practical activities. Since only one class per week is scheduled for geography, I suggest to all interested kids to join astronomy section once a week, that gives them one or two additional hours of astronomy informal talk, discussions, internet research, hands-on activities and workshops.

ASTRONOMY SECTION – EXTRACURRICULAR ACTIVITIES

In astronomy section, started up in 2006 with significant help of planetarium lecturers MSc Nataša Stanić and Aleksandar Otašević, I gather 20-30 children each year. Teaching method that I use in this class is informal and interactive. I use

video presentation carefully prepared and revised by our long-standing cooperators from Astronomical Society „Ruder Bošković“ and discuss astronomical images and processes in details. Beside presentations which are sometimes prepared and devised by children themselves, we use hand-made model of Solar system, magnetic globe, mini planetarium and telescope. Using these amusing teaching resources students understand astronomy topics much better and learning process is pleasant, that is the most important for memorizing the content.

Since 2006, we visit the Belgrade Planetarium once a year, take part in Belgrade Astronomical Weekend (2007/ 2008) and National Conference of Astronomers of Serbia (2008). We also host science performance „Balloon, glass of water and a mobile phone“ (by Mrs Stanić) once a year. Every April we organize The Earth Day, showing our activities to the public (other kids and parents) – we run astronomy presentation on a big screen, demonstrate school telescope (Optisan star, focal length 700mm, objective diameter 60mm, parent’s gift) and galileoscope.

In the cooperation with professor Tadić, this year we constructed a vertical sundial on the southern wall of our school so it can be seen from the main playground. Using the sundial we can demonstrate orientation in space, explain the equinoxes, summer and winter solstice, apparent daily Sun motion, celestial equator, direction to the celestial pole – The Polar Star (showed by the poles). Our sundial unlike the others in Serbia has two specific multidisciplinary details – haiku verses written by Nataša Stanić and painting by professor of art culture in our school, painter Tomislav Stošić.

The main goal of our astronomical team is to make astronomy popular in primary schools. We also want to show to other schools that astronomy should be present in everyday school activities, despite it is not included as a general school subject in curriculum.

CONCLUSION

During the last eight years more than 300 kids were engaged in astronomy in our section. We have increased the Universe awareness in our school as well as in our neighborhood, above all, by our extracurricular activities – telescopes and sundial. We have also increased ecology awareness talking about the single habituated planet in the vastness of the Universe, our home planet, Earth.

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