

Using “The Big Bang Theory’s” World in Young High-Potentials Education

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1. Introduction

One of the corner stones of the Research Platform: ExoLife, University of Vienna, Austria, is public outreach and education with respect to astrobiology, exoplanets, and planetary sciences. Since 2009, several initiatives have been started by the Research Platform to concentrate the interest of students inside and outside the University onto natural sciences. Additionally, there are two special programs – one in adult education and one in training/education of young high-potentials. In these programs, astrobiology (and within this context also planetary sciences) as a very interdisciplinary scientific discipline, which fascinates youngsters and junior scientists, is utilized to direct their thirst for knowledge and their curiosity to natural science topics (see [1, 2]).

2. Some basics on “The Big Bang Theory”

Presently, the US comedy sitcom “The Big Bang Theory” is one of the most famous TV serials all over the world. It follows the work and life of three physicists, one engineer and their friends. Various scientific topics related to astrophysics, space, and experimental physics and principal basic questions of natural sciences are addressed. Many youngsters watch this TV show and discuss the topics in their private surroundings. It is reported that the success of the serial is also responsible for an increasing interest in natural sciences, and especially in physics. For example, there was an increase of 17 % of University students in physics in 2010 and furthermore a strong increase of applicants for courses on physics in High Schools in the UK, too [3].

In our classical courses and lectures for young high-potentials and any other young interested parties we have observed the same phenomenon. Various students from 9-14 years are highly interested in the physical questions raised in this TV show.

3. Shifting natural science interests from TV to reality

In order to follow this trend we have developed special programs for high-potentials. We will present programmatic insights into our program/high-potential course on “From The Big Bang Theory to Natural Sciences”. Therein, selected astronomical, astrobiological and planetary science questions, which have arisen in the TV show are taken up and discussed with the youngsters in the course. Thereby, both theoretical and experimental approaches are used to ensure an optimal learning-and-teaching-environment.

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