

# Astronomy Education in Volunteer Service

In this poster, we will introduce the method of combining astronomy science education with volunteer services. We will demonstrate, how to motivate students to learn about astronomy in early training, how to guide them to transform their willingness to learn in the volunteering process, and how to help them consolidate their interest in volunteering through evaluation after the service and stimulate them to further explore the knowledge of astronomy. Finally, by reviewing the data on volunteer service in the past nine years, we will make an objective evaluation of the practical effects of combining astronomy education and teaching with related volunteer service, so as to illustrate the feasibility of this educational model for astronomy.



**LIU YANG**

The Affiliated High  
School of Peking  
University,  
Beijing, China



**LI XUEDAN**

The Niulanshan  
First Secondary  
School,  
Beijing, China

# Motivate Students to Learn about Astronomy in Volunteering Training

Since 2014, the school's student astronomy club has been systematically organizing volunteer trips to the Beijing Planetarium for students from all grades of junior and senior high schools.

During the Site service Training, teachers are responsible for carrying out site volunteer service training to spread knowledge, where students can get an overview of astronomy.

After the training, by adopting a project-based learning approach, students will select an exhibition area to learn about the astronomical knowledge related to it, finish writing lecture notes and give presentations under the guidance of the mentors. Then, they should pass the school-level examination conducted by the student mentors.

Students who pass the school-level examination will take part in the interpretive practice with the participation of professional docents at the Beijing Planetarium. Throughout the training process, students will acquire relevant knowledge through project-based learning and deepen their understanding through practical interpretations, so as to ultimately master the basic knowledge of astronomy.



official examination for the Beijing Planetarium. through project-based so as to ultimately

Site Service Volunteer

Interpretive Service  
Volunteer

Student Service Mentor

# Improve Willingness to Learn Astronomy in the Volunteering Process

During the interpretive services, the students involved can keep deepening their understanding of the relevant astronomical knowledge.

Throughout many services, the volunteer docents can, in turn, acquire more astronomical knowledge and provide interpretation services in more areas.

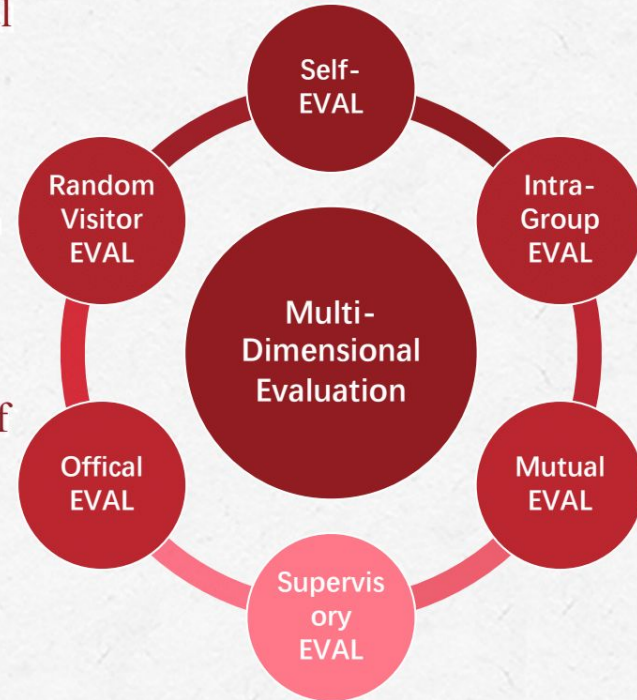
Finally, they will be able to pass the examination and become student mentors with more experience in service and a more comprehensive knowledge base of astronomy.



# Evaluate and Motivate Further Study of Astronomy

In volunteering, site service volunteers and volunteer docents will work together to provide services and take part in the same multi-dimensional evaluation.

The Self-EVAL, Intra-Group EVAL and Mutual EVAL mechanism among students promotes them to communicate with each other. Students providing site service have more opportunities to interact with their fellows responsible for interpretations so that the former's interest in further learning can be stimulated. Students involved in the interpretive service and the student mentors can learn from each other during the interpretation practice, so as to deepen their understanding of knowledge and further stimulate their interest in learning astronomy. The volunteer docents can, in turn, acquire more astronomical knowledge and provide interpretation services in more areas. Finally, they will be able to pass the examination and become student mentors with more experience in service and a more comprehensive knowledge base of astronomy.

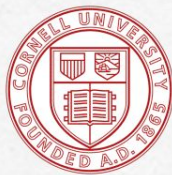


## Reviewing the Data on Volunteer Service and Outlook

With nine years of improvement, more than 800 students have participated in the planetarium volunteer service, of which over 300 have passed the school-level examination and nearly 100 of them have become volunteer docents at the planetarium. Among them, more than 70 students have grown to become student mentors, and six of the dozen student mentors who have graduated from senior high school have gone to different universities and colleges to continue their studies in astronomy or physics (Peking University, Cornell University, Wellesley College etc.). Other high school graduates also continue to volunteer as astronomical docents while studying in college.



Group Photo of students volunteers and the curator of the Beijing Planetarium (Prof. Zhu Jin) in 2016



*etc.*