

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

Author: Mr. Abdulla Hil Kafi  
BRAC University, Bangladesh

Ms. Raihana Shams Islam Antara  
BRAC University, Bangladesh  
Prof.Dr. Arshad Chowdhury  
BRAC University, Bangladesh  
Mr. Risul Karim  
Germany

SATELLITE EDUCATION AND LEARNING BY INTERACTIVE VIRTUAL REALITY GAME

**Abstract**

Launching a satellite for some major players in the space sector is a routine activity. Besides, small satellite evolution has helped many countries to take the bold vision to launch its satellite in space. However, the lack of adequate infrastructure and the non-availability of space education is still adversely affecting these countries to continue their space program. Also, for countries that are new and developing their technology, due to specialized impediments, cost, and education, reaching into and exploring space is still a big challenge. Then again, due to lack of expertise and financial capabilities, the non-space fairing countries are not capable of developing excellent hands-on educational material to educate their students in space science. Even today, space education is available to those who are directly involved in space programs. Though learning quality skills cannot be replicated on an online platform, studying fundamental concepts, such as orbital mechanics or parts of the spacecraft does not necessarily need to be confined in the classroom. Equally, essential concepts that are readily available on the internet, maybe hard to understand on self-study sessions. In such a situation, a little experience from a virtual world can be a big help to grasp the concept altogether. Based on the experience from designing the first satellite of Bangladesh named “BRAC Onnesha,” a virtual reality (VR) based game has been developed to deliver the satellite making experience to engineers, educators, enthusiastic people. This game aims to uncover facts and insight of satellite design, design process, gain new knowledge, and understanding about satellite technology and alleviate the bridging of the epistemic gap between the practice and academia. This platform will also help to build the space capacity of non-space fairing countries, particularly new space player countries and will involve more countries to understand space exploration. This paper puts forward to discuss the design and insights of this game.