

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Space Culture: Innovative Approaches for Public Engagement in Space (9)

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SPACE SCIENCE EDUCATION AND OUTREACH IN DEVELOPING COUNTRIES: CHALLENGES,  
SOLUTIONS, INNOVATION, AND CREATIVITY.

**Abstract**

We have undertaken a multi-year study of space science outreach in Africa (specifically Nigeria) among students at the University of Ibadan and High Schools during United Nations space science events such as Yuri's Night and World Space Week, as well as other special space science programmes. Our focus has been on active learning in both urban and rural communities. We collected individual interviews through questionnaire surveys and evaluated the level of education through classwork between 2007 and 2012. Continuing our work from a previous study (Onada Temitope, Space Science Education in high schools 2009, ICESA Journal), we examine ideas with regard to challenges and solutions, innovation and creativity. We find that a significant fraction of students from developing countries, i.e Nigeria, desire to learn more about space science through such resources as the Stanford Solar centre planets models, punch-out spectrographs, and videos. We also intrigue the students with space science games (basketball), space science competitions (quiz and arts), beauty pageants or African cultural display of planets, free online certification from Stanford Solar centre or YSED, and similar activities. We have discovered that students would like more innovation and creativity through mobile applications or web forums, university space radio programmes, access to solar powered space science centres or libraries, and on space science education with a focus on research. To address these needs, we have supplied students with SuperSID scientific instruments and data through a programme called Student's and Teacher's Education in Basic Space Science STEBSS. We report on these programs and results. <http://sid.stanford.edu>