

Mobile Planetarium-Based Astronomy Education and Outreach in Nigeria: Its STEM and Socio-cultural Importance

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Introduction

- Planetariums
- Mobile planetarium a tool for communicating astronomy and space-science related-fields (mobile classroom).
- Instead of the community to travelling to the science, the science travels to the community.
- The CBSS mobile planetarium
- Its role in STEM
- Socio-cultural Importance.



Project Design

- Collaborators - WAROAD + APA + Sci. Comm. Dept. of NASRDA-CBSS.
- Aim- Mobile planetarium-based astronomy and space science educational sessions and outreaches.
- Audience - teachers, students, and the public.
- The project adopted a cross-sectional design.
- Target- The six geopolitical regions of Nigeria.



Content and Resources

- Content depends on the target audience.
- Topics covered - the observable universe, types of telescopes, the mysteries of the cosmos, the solar system planets, the wonder moon, stars, our sun, exoplanets, light pollution, and cultural astronomy.
- Resources: IPS resources, Fulldome videos, YouTube, partnerships (Tanzania and China).



- Astronomy DIYs – Solar system modelling, rocket launch, construction of eclipse charts, & coupling of Galileoscopes.
- Visual art drawing
- Storytelling
- Documentation of cultural stories related to astronomy.

Post-session activities



- Quantitative method – (multiple choice questionnaire).
- Qualitative methods – (Interviews, observations, and focus group discussions).
- Pre- and post-sessions assessment.

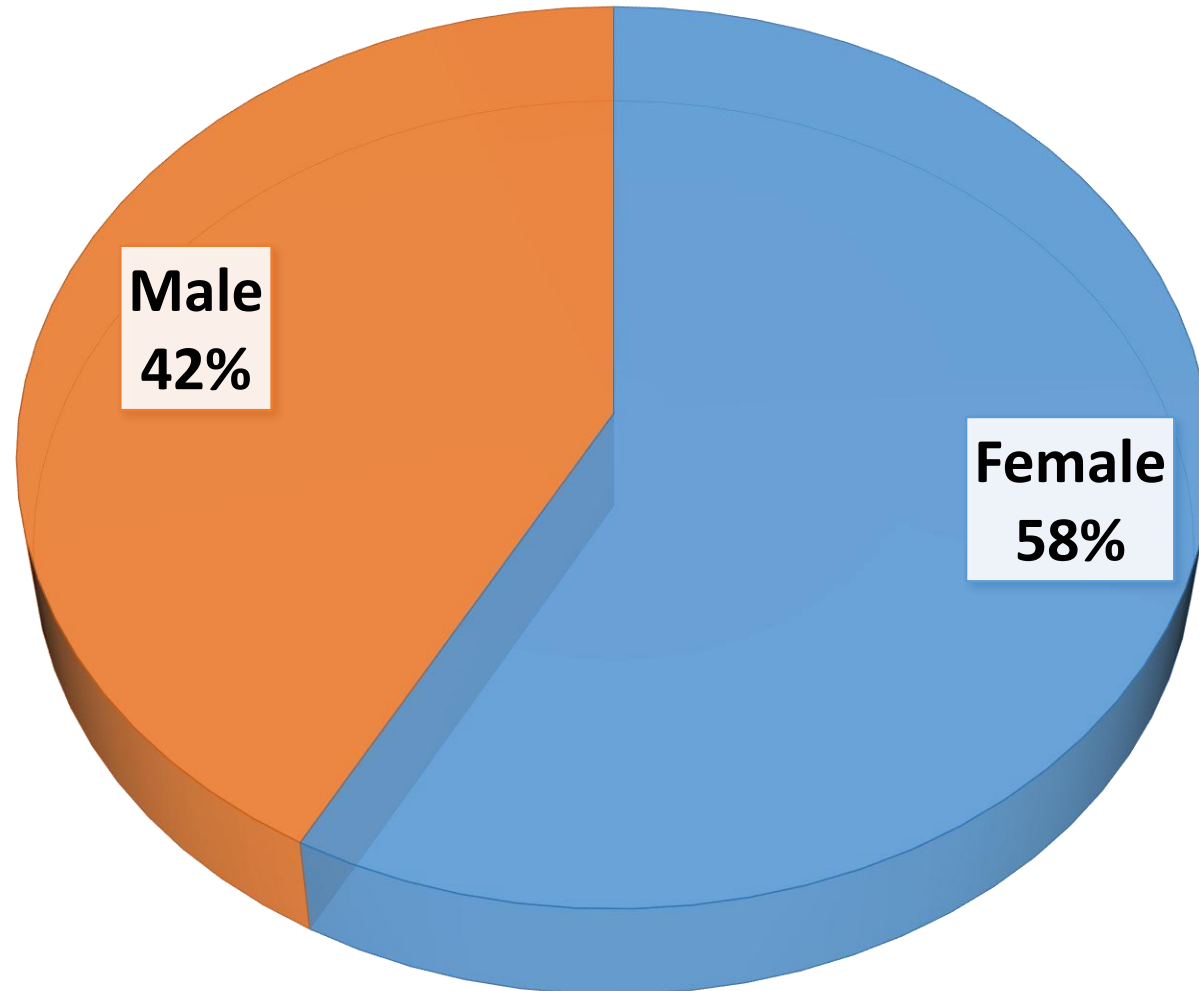
- Six (6) outreaches for students of all grades.
- Two (2) educational sessions for teachers.
- Two (2) public events.



Activities

Participants and Gender Ratio

- Total number of participants – 1,550 (documented) and more.



Astronomy Outreach Activities 2025~Date

- **University of Nigeria primary school, Nsukka outreach.**
- **23 October, 2025**
- **140 pupils and 15 staff members of the school.**







200+ Participants





NASRDA-CENTRE FOR BASIC SPACE SCIENCE AND ASTRONOMY, NSUKKA

IN COLLABORATION WITH

Akpa Edem Community, Nsukka, Enugu State, Nigeria.

presents

ASTRONOMY FOR MENTAL HEALTH AWARENESS AND COMMUNITY PLANETARIUM OUTREACH

FEATURING:

Mental Health Awareness lectures,
Understanding Telescopes
and Observation Types.



OTOBO AKPA
EDEM, NSUKKA,
ENUGU STATE.

27TH
DEC.
2025

10:00
AM



260 Participants



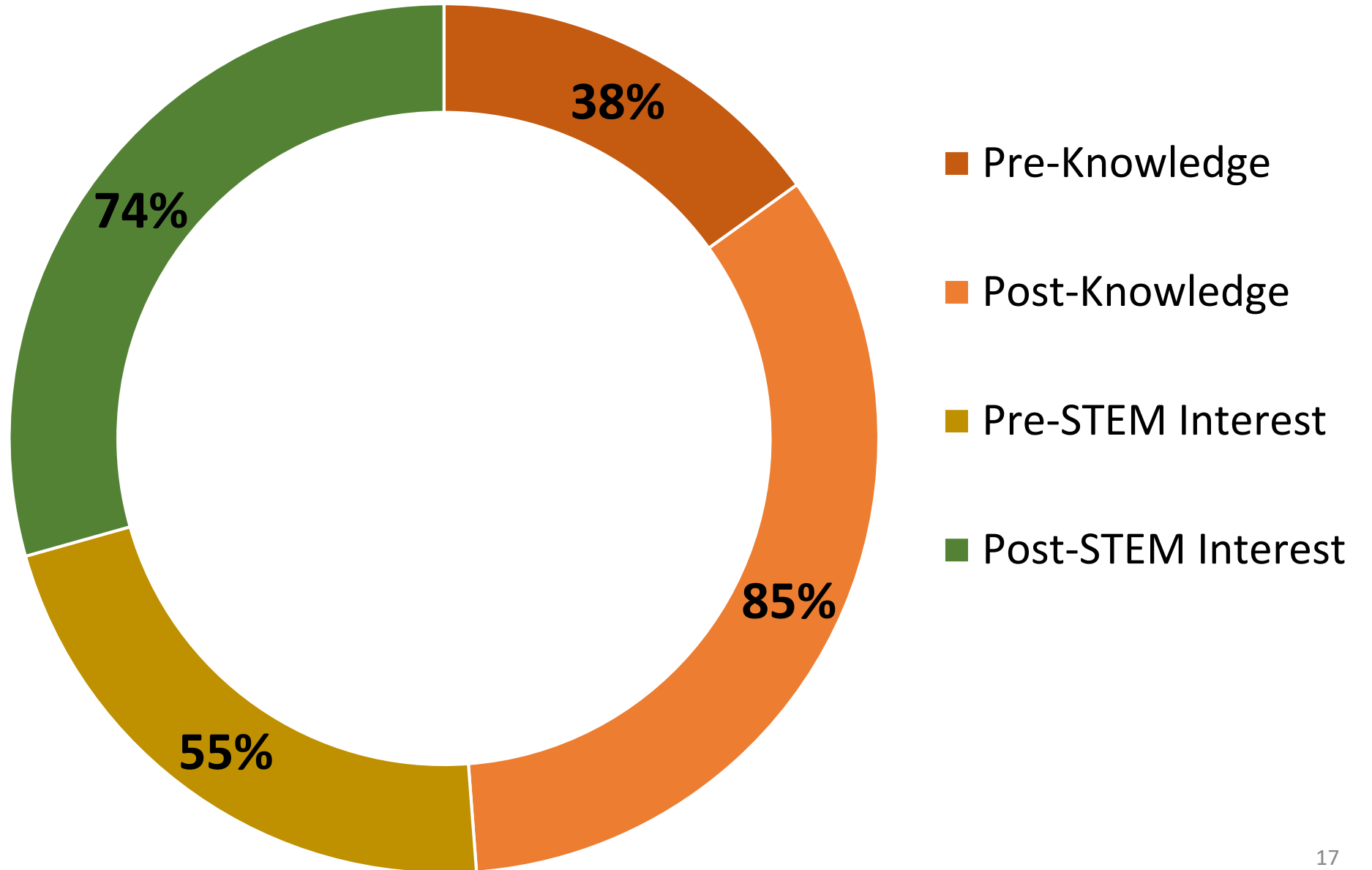
Imo State Outreach
4 -5, Nov. 2025



500+ Participants



Summary Statistics



STEM and Socio-Cultural Importance Of Using Mobile Planetariums

- **STEM:** Ignites scientific curiosity. Mobile planetariums transform how abstract scientific concepts are delivered and understood. The "wow" factor serves as a career catalyst. Trojan horse for other STEM disciplines.
- **Socio-Cultural:** The impact of mobile planetariums extends far beyond the classroom, touching deeply on equity, heritage, and community bonding. It helps in preserving cultural astronomy (the night sky is humanity's oldest storybook, and mobile planetariums are incredible tools for storytelling). It boosts community cohesion and unification.

Challenges of the Mobile Planetarium

- Require large space are for indoors setup.
- Seasonal challenges (rainfall).
- Manpower and logistics.
- Lack of indigenous African data archive.
- Cost of accessing full high resolution videos.



Conclusion

- Mobile planetariums are instrumental in curiosity awakening and inspiring awe among visitors. Its importance cannot be overemphasized, as it motivates visitors to engage in STEM and its related activities.
- The use of the NASRDA-CBSS mobile planetarium has increased interests in astronomy and space-science-related fields over the past few years.
- Pre- and post-planetarium sessions have been essential to educate the participants on the basic principles of astronomy and also decipher the difference between astrology and cultural astronomy.

Acknowledgement



Own a Planetarium and Join APA Today!!



THANK YOU