

Educator development through Astronomy workshops

Anacletta Koloko
(anacletta@hartrao.ac.za)



Abstract

The level of Astronomy education in South Africa is still very low compared to the rest of the world where astronomy is pursued with a lot of vigor and seriousness of purpose. Lack of intensive capacity building and science programmes aimed at educators is the major cause of this lack of interest in astronomy. It is then important to develop programmes that can help inspire both learners and educators and create interest and



Teachers learning about the orientation



Observing Jupiter

Astronomy Quiz Questions

1. What is the closest star to earth?
2. The hottest planet in our solar system is....., give a reason for your answer.
3. What is the name of our galaxy?
4. What causes day and night?
5. What causes seasons?
6. What causes phases of the moon
7. What is the name of the largest radio telescope that South Africa is bidding to build?
8. What happens inside the sun to produce heat and light?
9. How many planets do we have in our solar system?
10. What is the name of the theory used to explain how the universe began?

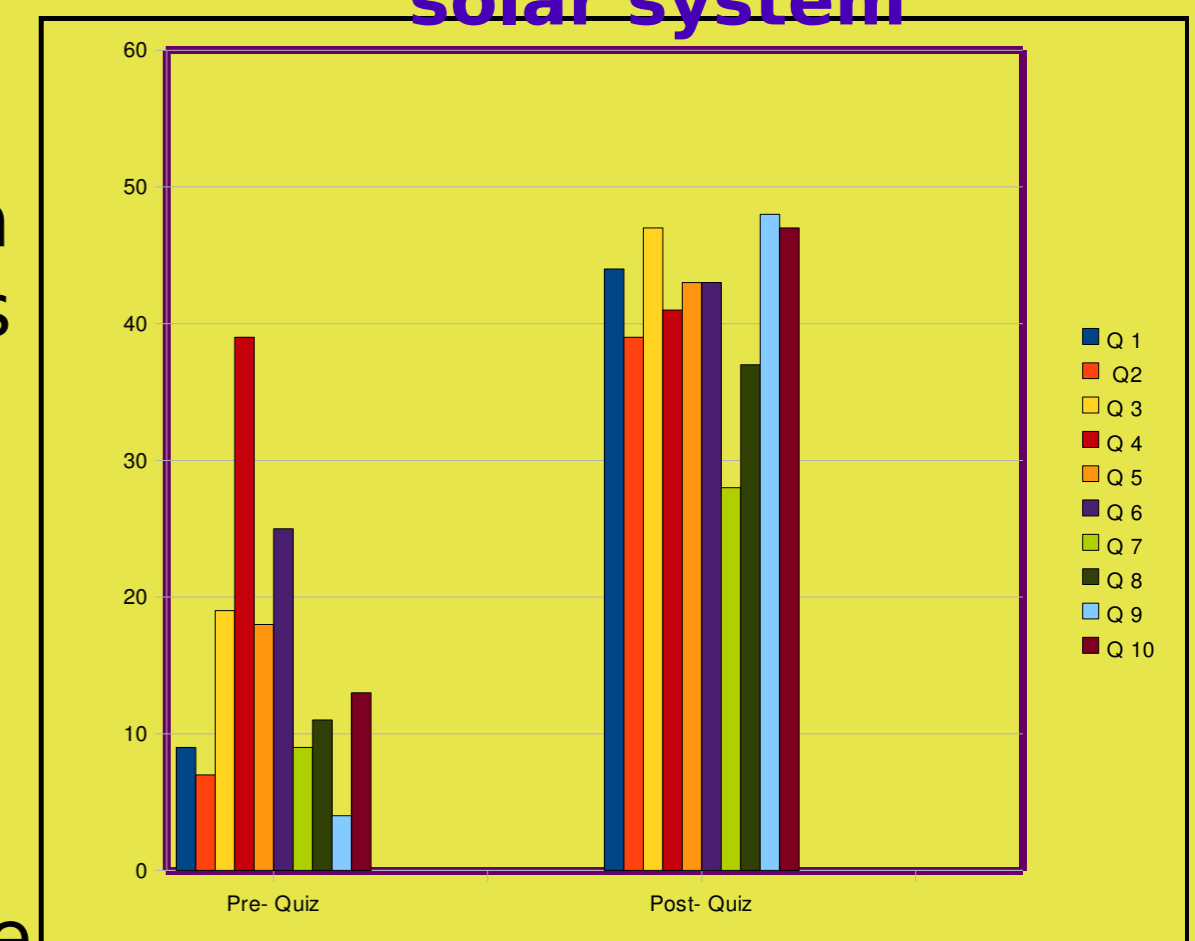
Aim
The aim of the workshops is to help prepare educators for the “Planet Earth & Beyond” strand of the natural science learning area in National Curriculum Statement (NCS).

Introduction
Astronomy education increases public awareness and interest in science and technology. South Africa needs to train more learners in astronomy and related fields so that the number of astronomers and engineers increases. This is only possible if educators are well trained in the basic concepts of astronomy and are familiar with the role played by South Africa in this field.

Procedure
One of the principles of South Africa's National Curriculum Statement (NCS) is that science studies natural phenomena and the processes of inquiry are an essential part of the nature of science; thus these should be included in science curricula. Learners should be motivated through interacting, and they then discover science for themselves, so educators should be equipped with appropriate content knowledge and delivery approaches. During IYA 2009, workshops were conducted in two provinces namely Eastern Cape and Mpumalanga. These workshops involve demonstrations that can be done with minimum resources. Educators were given the astronomy quiz with 10 questions in the beginning of the workshop and at the end. This was done so as to note if there was any knowledge gained after the workshop.



Sam explaining the scale model of the solar system



Quiz Results

Findings

The quiz results show that educators have limited astronomy content knowledge and after the workshop there was an improvement in their understanding. Educators acknowledged that they came to the workshop with a negative attitude and at the end they felt more confident to teach “Planet Earth and Beyond” in the curriculum. Some also felt that they will benefit more if they further their studies in this field.

“The workshop was so interesting because I had a negative attitude towards earth and beyond but now I'm so interested about the part in such a way I like to further my studies with it.” Maluti District- Mpharane JSS
“Thank you very much it was a really eye opening, and Im confident enough to approach the theme of Natural Sciences Earth and Beyond. Lastly I wish I can do this study and become a graduate on this.” Ehlalzeni Region Sibusisiwe Secondary

Conclusion

There is a need for astronomy education in our country because South Africa has the largest optical telescope in the Southern Hemisphere (SALT) and we are also bidding to build the largest radio telescope in the world (SKA). I believe it is important to educate more people on the role played by South Africa in Astronomy and it starts with educators who can then filter information to the learners. This might help the country to increase the pool of astronomers.

