

Conclusions and final discussion session of the course- NASE 2012 – Bolivia

During the implementation of the conclusions and discussion session at the end of the course in La Paz, Bolivia, it is clear that most of the participants in the course were NASE graduates on Physics who teach that discipline in high school.

Astronomy is not approached from physics, but from the Social Sciences and mainly at primary school for high school, the basic issues are Mechanics, Kinematics and Energy, there are no applications, the activity is reduced to calculation and memorization content. To include experimental practice, it requires a great change.

In this sense, NASE practices are motivating.

During the race the faculty or the Bachelor, Astronomy is an optional space. Occasionally students take theoretical courses related to the discipline, there is no practice at university level.

NASE topics could be used at the college level. This course is an opportunity to improve even at the University level, the NASE course should be issued after Modern Physics. Because the contents: the student of the Bachelor could stop sitting.

At the secondary level, Modern Physics is taught, but in the space of Chemistry. Astronomy can relate different curricular areas.

Teachers are interested in these issues, but there are not too many resources.

There is an interesting experience in Cochabamba: the University TV channel provides five minutes each week to a talk show. Teachers see it, it is broadcast in the early morning and viewers called to ask questions. Right now it is taking place more time to do micros on specific subject areas, showing experiments: NASE provided good ideas!

In Tarija, there is no career in physics, but teachers of this city have taken seriously astronomy from participation in the Olympics: from the 6th grade until the latest high school are taught astronomical content. It recognizes the need to improve the ability in regard to instrumental astronomical observations. Is advanced for the time, with students more interested and in recent times the number of students has grown. In training we speak of "Astrophysics", to induce the mathematical study of phenomena. This activity makes them feel better every day, and warn that families

feel outweigh the positive impact and helping cooperate with each activity. Students arrive early to astronomy classes, that strange the other teachers

At the start of the training for the Olympics in Astronomy, students viewed the activity as easier than physics, because they thought they should not perform calculations and was only theory.

During 2012, in Cochabamba, joined students from 10 to 15 years to this activity. He taught classes for 5 weeks. A survey was conducted to try to understand the abnormal growth in the numbers of students involved and the answer was: have forced us to take the course. Of the initial group, numerous, decanted 3 students

During the exchange, the audience is introduced to the project adopts a star and invited to participate.

The curriculum is in the process of change in Bolivia, this implies that there is a huge need for training by teachers: NASE would be extremely useful for updating and training of teachers in the context of the new curriculum at the secondary level. It is a stimulus that invites ongoing training and allows us to access content immediately applicable in the classroom.

It is proposed, in general, organize various activities using material NASE and insists on the need to do workshops based on didactics

We highlight the practical benefits of the NASE course. Starting with the experienced over the four days, it is clear that we must change the way you teach at the secondary level, giving students an opportunity to conduct more experiments.

A country progresses if science reaches more people and misconceptions are corrected. The workshop enabled them to see that with simple things you can do science.

Suggestions from participants in the course:

1. 1. The time of year when the course development is not the most appropriate. It's time for exams and teachers do not get permits.
2. 2. Is suggested as possible dates for NASE Bolivia the period from March to July
3. 3. It is suggested that more information on the course
4. 4. A group of participants (Tarija), asks that the course is done before the Olympics: February or March.

In closing the session, a participant presents a contribution in poster format, where we present a project associated with the generation of 4 books on astronomy, interrelated, for primary education.