

E-Teacher Training: Taking astronomy to the Portuguese Speaking Countries community

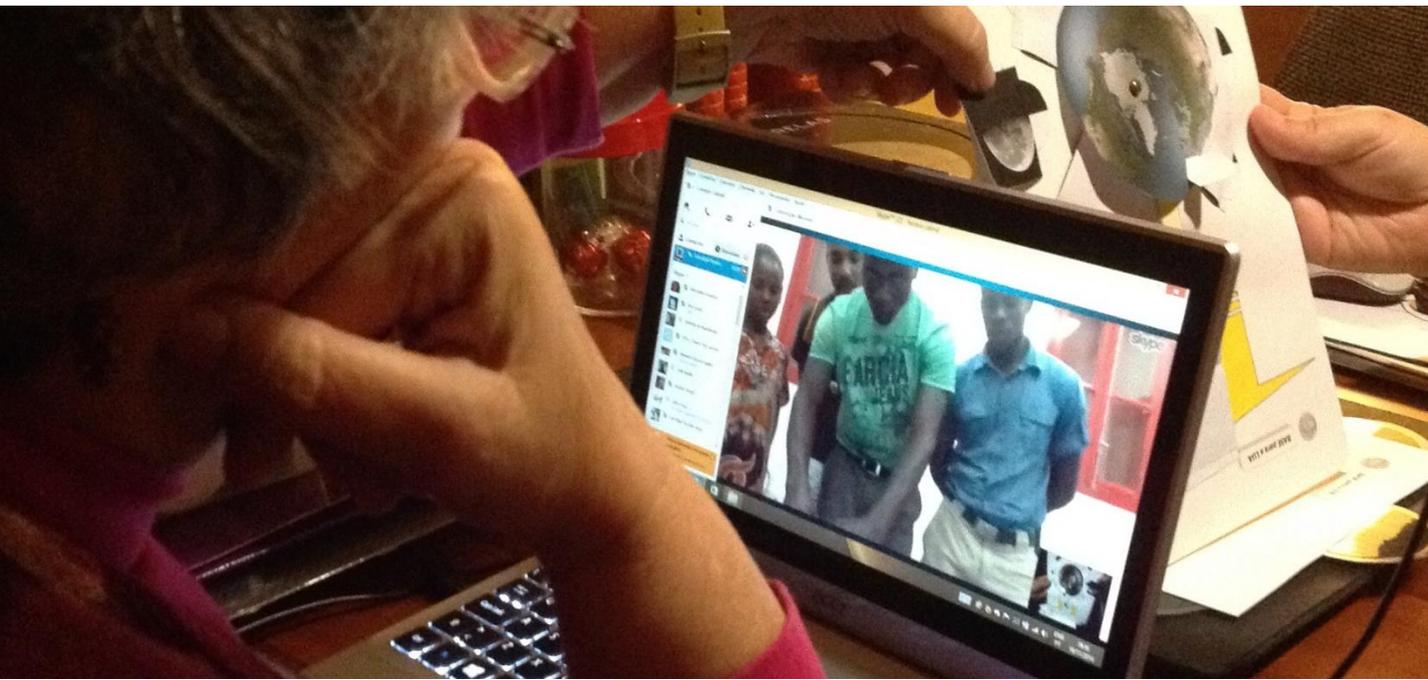


OAD project report

November 2014

SUMMARY

The project “E-Teacher Training: Taking astronomy to the Portuguese Speaking Countries community” is training teacher trainers and teachers, through online workshops, in the effective use of free astronomy tools, resources and in class activities, adapted to science curricula of countries in which Portuguese is the official language or has a strong social and cultural importance. By training teacher trainers, the program adapts and delivers astronomy educational resources, orienting the training for its use, for an ultimate and effective delivery in classroom. All trainers attending the program are equipped to train other teachers in these methodologies, leveraging the work begun in the virtual workshops, continuing the legacy of this project in future: the future continuous training of other teachers on site by those trained in the program.



Teacher trainer (left) and trainees (center, on screen) during the e-training in S. Tomé and Príncipe.

MEETING THE OBJECTIVES & CHALLENGES FACED

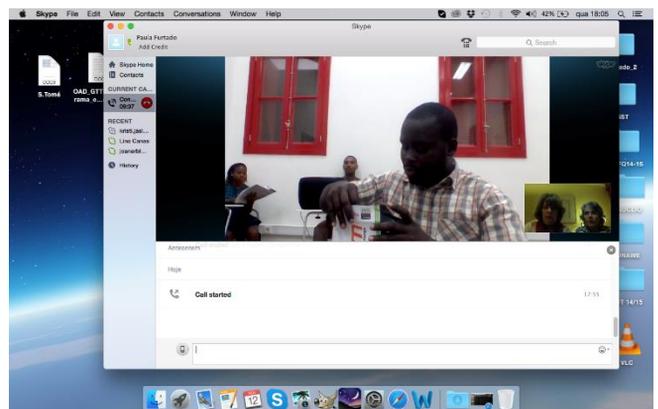
Provide a legacy of sustainability for the project;

The major goal established for the project was to provide sustainability for the project in years to come and not only for the duration of the project itself (see page 5). This has translated in many successes but also added delays in the immediate implementation of the training and most of the times prevent it to occur in the timeline predicted.

Find the best and most active partners on the field;

When the project started it had already established a solid baseline of partners, mostly achieved by the still ongoing efforts from Galileo Teacher Training Program back in 2009 during International Year of Astronomy as a cornerstone project.

As time progresses there is the paramount need to understand and carefully meet the new realities of the network involved. Although most of the Local Points of Contact are still very active in the field of outreach and education, there was (and still is) the need to establish new connections as many other partners were identified as active future points of contact during 2014.



Teacher displaying the constellation model built during the e-training (left) with the support of the activity booklet produced (teacher holding the booklet, right image)

Meet the local needs for the different communities and different realities for each country;

From the many free online and low cost resources identified prior to the submission of the project, we were aware of the need to focus our efforts in order to adjust and link the local communities to them in order to achieve a true long lasting impact and usefulness in each country and community.

From the research and discussion conducted between all parties involved, a set of activities and resources were selected and compiled into a single activity booklet in Portuguese (please see page 6), starting in December 2013. Gathering additional efforts and different collaborating entities, such as Matemática do Planeta Terra (Mathematics of Planet Earth - UNESCO Portugal) the final result of this cooperation was completed during November, 2014.

Also, as new and active local points of contact were established during the implementation stage of the project, there was the need to redefine some of the planned etrainings. An example of one of these cases is Cape Verde and the need to have sessions focusing on Universe in a Box Kit.



Teachers on screen showing the constellation drawings made during UNAWE's "Universe in a Box" etrainings sessions in Cape Verde.

Providing a long standing support and raising awareness of global partners;

As the implementation stage continued and the awareness of the project also spread in each country, the need to forge long term protocols has risen. Determined on providing a more focused and long term plan of support working group, NUCLIO/GTTP has teamed up with AI-Lisbon (Astronomical Institute - Lisbon) and submitted a proposal to IAU – OAD for the creation of a Portuguese Language Expertise Centre for Astronomy.

Understanding the political and social realities of each country and community;

Some of the communications faced an extended degree of delay due to local constrains in the community or country, such is the case of Guinea Bissau riots, losing momentum for implementing the project in accordance to the timeline established. Another case such as Macau, the internal bureaucracy faced in validating the credentials for the etraining.

Do Planeta Terra ao Espaço

*Sugestões de tarefas experimentais
para dentro e fora da sala de aula*



The book of activities: From Planet Earth to Space addresses several topics that allow teachers to access, in Portuguese, a selected set of resources for a more in-depth knowledge on several scientific areas in a journey from our planet earth to space. It provides 15 interdisciplinary activities that fall into three major categories: Astronomy, Experimental Physics Teaching and Cosmology. The printed version of the booklet displays 14 activities, the 15th activity is available online as it requires online connections for its implementation. These are lesson plan suggestions for teachers but flexible enough to be implemented not only in classroom environment but also in a more informal teaching context.

[Link to the booklet in Portuguese]

<http://www.mat.uc.pt/mpt2013/doPLANETATERRAaoESPACO/index.html>

NETWORK STATUS & PLAN OF ACTION

Angola: From the original point of contact established two more were established and the possibility for the training is currently being discussed.

Mozambique: Training will start in January, 2015.

Focus: Universe in a Box

S. Tomé and Príncipe: Currently under training.

Focus: Booklet “From Planet Earth to the Universe”

Cabo Verde: Currently under training.

Focus: Universe in a Box

Portugal: Training will start in January, 2015.

Focus: ODS Portal and creating a community of teachers in Europe for sharing resources;

Brazil: Contact established with local University. Collaboration protocol for the year 2015 signed.

Focus: Ongoing discussion.

Goa: Contact lost, new point of contact currently being sought.

Macau: Waiting for the approval from local entities.

Focus: Booklet “From Planet Earth to the Universe” + additional Astronomy Modules focused on light pollution & asteroid search

East Timor: From the original point of contact established two more were established without success.

Guinea Bissau: Two contacts established through ONG operating locally. Contact lost during political problems in the country. New points of contact currently being sought.

Meeting new needs addressed during the implementation progress of the project we will also add:

Guinea Conacri: Accepted in the CPLP (Community of Portuguese Speaking Countries) and we are currently seeking local contacts.

Luxemburg: Large Portuguese speaking community and local displayed interest in joining the project.

S. Tomé and Príncipe: An Example



Interdisciplinary is one of the strong key aspects of the activities. During “In the night you hatched” activity the biologist Alexandra Marques provided important support to the teachers.

The activities booklet “From Planet Earth to Space” is a very important resource to support teachers locally during the training sessions.



During the activity “Phases of the moon” the group of teachers interacts with the trainer through the information shared on screen. In Portugal the trainer Leonor Cabral shows how the movement on the model built. In Príncipe, the teacher Joyn Tioló took the lead and explored the model with the support of the other teachers.



Minding students with special educational needs the training also provided some alternative activities using low cost tactile materials. In this activity teachers were exploring the possibility of implementing an activity addressing distances in the solar system in a fun way with the students roleplaying the planets..

Image Credit: NUCLIO/GTTP, Matemática do Planeta Terra, OAD.

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