

ESA/GTTP Teacher Training Workshop 2014

08 – 12 December 2014 @Snellius

This workshop was the fifth in a series organised by the European Space Agency (ESA) with the Galileo Teacher Training Programme (GTTP) for European science teachers of students aged between 12 and 18 years old. The workshop was designed to allow teacher to explore innovative ways for using space science and astronomy in the classroom to engage students in the sciences.

Participants at the workshop were presented with a variety of tools to enhance their use of astronomy and space science as a context in for their science lessons, in particular physics. In addition to networking with their peers from across Europe, teachers were invited to present how they apply the context of 'space' to their lessons.

The workshop was devised to train the teachers to a standard so that they could disseminate what they learnt to colleagues in their home country. The aim was also to allow sufficient time to familiarise participants with the material presented to enable them to adapt it to the requirements of their students and national curricula after completion of the workshop.

The workshop programme was structured to provide a balance between theoretical and practical training, and sufficient discussion time. The theoretical training included lectures from ESA scientists presenting cutting-edge astronomy and space science, and the latest trends in science education. The practical training provided a variety of experiments and demonstrations that could easily be recreated in a school laboratory, as well as a number of computer-based activities, including the application of real spacecraft data in the classroom.

Feedback about the workshop was immediately captured from participating teachers in the form of an online evaluation survey. The constructive feedback received plays an important role in the planning of future workshops and development of new recourses. Overall, the feedback received was excellent, with 100% of the participants stating that they would recommend this workshop to colleagues. All participants agreed (or strongly agreed) that the workshop enabled them to develop:

- greater awareness of space education resources
- greater confidence in using space education resources to teach STEM subjects
- skills to use space as a context for teaching STEM subjects
- ideas for using space as a context for teaching STEM subjects
- awareness of good practices in using space as a context in the classroom

On average, more than 80% said that they found the 10 practical sessions across the 5 days of the workshop useful or very useful in terms of the new ideas and skills they learned and their application in the classroom. In 2013 a new session was added to the programme about Inquiry Based Science Education, unfortunately it was clear in the feedback that this session was deemed to be the lest useful for the teachers. However, this topic was repeated at the 2014 workshop, but was refined according to the feedback received from the workshop held the previous year. In 2014, 90% of participants found this practical session useful.

One aspect of the workshop that could do with some further improvement is the structure of the workshop. A number of participants felt that they would have liked to spend more time on some of the practical sessions. When asked if the sessions were long enough and informative enough to be able to train their colleagues to use the material presented, 20%

participants felt that they would have liked more time during the week of the workshop to familiarise themselves with the material. This small number of teachers stated that they would take some time after the workshop to revise the activities and try out on their classes. This is an important consideration to take on board for the future to ensure that the aim of participants training colleagues in their home countries can be fulfilled as far as possible. Many of the teachers did agree that sufficient time was allowed and have already made plans to disseminate what they have learned to their colleagues and students.

Overall, the workshop was a success, the Lorentz Center@Snellius is a wonderful facility and we are very grateful to the Lorentz Center staff for the excellent organisation provided for a second consecutive year.

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