Partner apprenticeships in astronomy at primary schools in the Netherlands

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Pilot project as part of the implementation of Universe Awareness in the Netherlands
Date and names

• January – November 2010
• with some extra money from the Dutch Ministry of Education
• with support of NOVA (the Netherlands Research School for Astronomy) \(\rightarrow\) astronomy departments
• In close collaboration with Platform Bètatechniek (organisation commissioned by the Dutch Government, established to support primary schools to pay more attention into science and technology)
Approach

• find schools in disadvantaged areas
• find coordinators at teacher training colleges
  • recruit and supervise students (curriculum)
• find coordinators at universities (support)
  • recruit students (native dutch, not in curriculum)
• set up a meeting with schools
  • (find out what they want)
• make a plan approved by UNAWE + schools
• get started
Involved

• 18 primary schools in disadvantaged areas in 5 major cities and 1 school for chronically sick children
• 21 astronomy students
• 19 teacher training college students
• 150 primary school teachers (60 active, 90 passive)
• 1350 children (4-12 years)
• 5 astronomy departments (staff members)
Criteria

• must be entertaining
• engage children directly
• Wow! effect
• use hands-on materials
• must fit in the strict curriculum that Dutch schools are obliged to follow (which is focussed on language and maths and does not include astronomy)
Aims

• inspire kids
• appeal to their enthusiasm and curiousity
• let them find a new interpretation of their place in the community, in the world and the world in the universe
• get in touch with geography, natural science and history
• learn from and about each other to establish a positive attitude towards each other and towards cultural differences
Example

• School for chronically sick children
• 80 children (4 – 12 years)
• Many cultural and intellectual differences
Theme: what can you find in the universe?

- 5 years old
- Asking questions
- Telling stories, picture books
- Making moon, stars, planets
8 years old
Interactive discussion about quality of life on planets
Making planets
Theme: What and how we observe

10 years old
Theory/discussion
Working of telescopes / satellites
Making satellites
Ending the astronomy week......
Each class gives a presentation on their own astronomy week
And finally visiting the exhibition
Results

• expansion of the UNAWE network
• develop new educational materials
• connect students from different levels/courses
• synergy between different students
• 75% of the schools want to put astronomy on the agenda
• astronomy is a perfect way to introduce science and technology
• by involving the parents we even reached that they also got in touch with astronomy (Utrecht, all parents and kids went home with a nice booklet about the universe)
• But maybe the most important thing they experienced is that..
Astronomy is Fun!

😊
Quotes - 1

- “When I graduate, I definitely do astronomy in my future class. I now know where to find the people who can help me with that” (teacher training student)
- "What a wonderful subject to make teachers enthusiastic about science” (teacher)
- “It was fun but also difficult to explain complicated things at primary school level” (astronomy student)
- "Fantastic! And I’ve got so many ideas to get started in the classroom" (teacher)
Quotes - 2

• “I really love astronomy” (teacher training student)

• "I am very fond of the topic, the approach, the structure and the people” (teacher)

• “It’s fun to be busy with astronomy in a different way you are used to, so it was also instructive” (astronomy student)

• "The UNAWE-Earthball is an awesome resource” (teacher)
Unawe Earthball used in a workshop in Westerbork (NL) and at the same time in South Africa and Australia.

This workshop was followed by a live skype conversation with those kids in the three parts of the world.

May 2010
The UNAWE Earthball present at the last launch of the Space Shuttle in Florida, July 2011
The Dutch Queen Beatrix opened the LOFAR Radiotelescope, assisted by Unawe girls, June’10

Your contribution......?
Send your Earthball pictures (if possible with kids) to UNAWE and add date and place on the earth!
“That's all Folks!”