Universe Awareness: An astronomy programme that is really about children.

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When was the last time you looked up randomly at the sky and were mesmerized by its beauty? Do you remember the first time you saw a real photograph of the Earth taken from Space and what it made you feel?

Have you ever caught yourself feeling so close to the stars that you had the impression you were floating out in space? Well, you are.

The realisation of our place in the universe is a wonderful experience that brings us to a peaceful contemplation of ourselves and of our immediate surroundings. With an ever-renewed sense of thrill and excitement, it puts every ill feeling and bothersome worry into perspective. "Does it really matter?" we ask ourselves as the majestic beauty of the night sky unravels before our eyes.

When they proclaimed 2009 the International Year of Astronomy, the United Nations made a very strong statement. The UN affirmed that astronomy, often seen as an expensive science with pretty pictures and little everyday impact, is in fact much more. The UN elevated astronomy to the rank of world-changing discipline that contributes directly to all mankind through education, sustainable development, environmental awareness, technological development and last but not least, the expansion of human knowledge and exploration. It is our delightful mission to seize this opportunity and make sure that the UN was right in its vision.

Where do we start?

Universe Awareness (UNAWE) is an international programme that began in 2005 with the aims of inspiring very young children with the scale and beauty of the universe. The motivation behind this simple idea was that in today's world of divides, children in the most underprivileged environments are vulnerable to extremism and dogma that the experience described above can help counter. With goals of broadening children's minds, awakening their natural curiosity in science, empowering them with independent thinking and connecting them with other children throughout the world, the hope is that today's children will grow up to become tomorrow's tolerant and open-minded adults with confidence to think critically and rationally: true world citizens. We believe that astronomy is an outstanding ambassador to realise this objective.

UNAWE reaches out to a group that is often neglected by programmes articulated around scientific disciplines: very young children. Universe Awareness programmes start at age 4, sometimes even 3. This is not a hurdle as the emphasis of the programme is on inspiration rather than on scientific knowledge acquisition. UNAWE tries to contribute to children's value system and to the formation of their identity in a positive and constructive manner. As such it uses astronomy to make children enthusiastic about science before it becomes burdened with preconceptions of a social nature, such as "not for girls", "only for the academically inclined", "only from and for the Western world", etc.

A first step is to show children that there is more to the universe than the world they can see. This goes through showing them images of universe – probably the most versatile legacy of modern telescopes. The excitement and fascination for these images is instantaneous. When we try to picture the dimensions of a nebula or a galaxy, or the extreme conditions inside stars or on other planets, we stretch the limits of our own imagination. The same goes for young children.

Their journey of discovery is complemented with firsthand experience. Observations of astronomical events are festive occasions; hands-on toy and model making sessions increase and deepen children's understanding. Internet exchanges with others of the same age from all around the world instantly engages them in a global society and prevents the feeling of social isolation that is often a consequence of being born in a deprived or marginalised environment.

Towards a true scientific culture

Astronomy is the only scientific discipline with a cultural heritage so vast that it deserves its own UNESCO programme[1]. From philosophical digression and artistic inspiration to precise measurements of space and time, intimate knowledge of the sky has always played a fundamental role in the progress of our societies. But beyond history, archaeology, anthropology and cultural diversity, this heritage can still contribute directly to development.

In displaced communities, such as ghettoised immigrant populations or refugee camps, children often are at a loss to define who they are and where they belong. Societies in transition do not offer as much grounding for children's identity formation as a home where their traditions and culture are the standard. The sense of belonging to a group that prides itself on grand achievements and a rich culture boosts children's self-confidence.

UNAWE programmes convey a big picture where the multicultural origins of astronomy and modern-day scientific achievements in astronomy and space are intimately intertwined. Therefore it does not matter whether the first man on the moon was American – it would not have happened were it not for the Middle Eastern astronomers' devotion to preserving and enriching astronomical knowledge for centuries and the European invention of the telescope.

Everyone can claim a contribution to where we are today. Equally, everyone should benefit from it.

The global character of astronomy is also exemplified in modern astronomical endeavours that are all done in large international consortia often involving developing countries. Indeed, the night sky in most of the third world is of a much better quality than that of the industrialised world heavily contaminated by light and atmospheric pollution. Pride in one's patch of sky lays the foundation of future efforts to preserve it.

Similarly, it is greatly entertaining for children to explore the zoo of animals that constellations represent in various cultures. Some communities would not have put some animals in the sky because never seen before but the same animals being familiar for others would feature naturally in their map of the heavens. Without diminishing appreciation, there is an understanding that culture is relative to the environment. This tolerance extends naturally to customs and convictions. It opens way for openness to diversity and avoids judgement hasted by unfamiliarity. If there is room for every culture in the sky, there is room for everyone's culture on Earth.

[1] http://whc.unesco.org/en/activities/19

By placing cutting-edge science and development in a human context tracing back our origins and suggesting a bright future, Universe Awareness does not seek to make the next generation of scientists but hopes to seed the minds of tomorrow with values of tolerance, openness and appreciation of all sciences.

This is how the global UNAWE community has set out to celebrate Astronomy in 2009 and for many more years after that.

Facts

Since 2005, Universe Awareness has developed into a thriving community of volunteers, educators and experts in child development from over 25 countries. UNAWE works on a crowd-sourcing model, partnering with active individuals and organisations from around the world. Its rich network contributes experience and innovative methods in astronomy education and initiates international collaborations. UNAWE educational materials are free for all to use and are made available through a dedicated website[2]. UNAWE is coordinated by an International Office based at Leiden Observatory in the Netherlands and is funded by a grant from the Dutch ministry of Education, Culture and Science. For more information, see the Universe Awareness website: http://www.unawe.org/

[2] http://www.unawe.org/materials