



UN75 | SHAPING
OUR
FUTURE
TOGETHER
2020 AND BEYOND

UN GA 75 DIALOGUE

**ASTRONOMY:
A UNIQUE EDUCATIONAL TOOL
FOR FURTHERING THE SDGS AND
STIMULATING A GLOBAL PERSPECTIVE**

SUMMARY REPORT



Organised under auspices of AERAP ScienceDigital@UNGA75 by the International Astronomical Union's European Regional Office of Astronomy for Development (E-ROAD)^{1,2}

28 September 2020 | 14.00 – 16.00 CEST

1 See e.g. http://iau.org/static/education/strategicplan_091001.pdf

2 www.astro4dev.eu

Introduction

We thank the United Nations and the UN Secretary General for reaching out to the citizens of the world by instituting the UN GA75 Dialogues. This virtual Dialogue³ focused on how astronomy can advance the UN SDGs and in particular how telling young children about the enormity and beauty of the Universe can help develop their global consciousness and foster global solidarity (SDG 4.7).

The Dialogue programme is listed in the Appendix below. Speakers included astronomers, educationalists, social scientists, economists, politicians and government leaders. Talks included ***an inspirational keynote address by the South African Minister of International Relations and Cooperation***, and supportive messages by a member of the European Parliament, the UNESCO Global Citizenship Education Leader and the President of the International Astronomical Union. Speakers participated in the virtual Dialogue via Zoom. The Dialogue was broadcast live to a wider audience via YouTube, with the possibility of making comments and asking questions. More than 600 members of the public followed the proceedings live and an additional 1200 accessed the proceedings in the subsequent 24 hours. We received enthusiastic comments about the topic and talks from the participants.

During the Dialogue, videos were shown of young children from several countries, describing their excitement on learning that the earth is merely a tiny “pale blue dot” in a huge beautiful Universe and how this made them realise that we are all part of a single human family, responsible for protecting our planet.

Subject of the Dialogue

The main question considered during the Dialogue was whether introducing young children to the enormity and beauty of the Universe can stimulate a global perspective (SDG 4.7) that will help advance (i) a peaceful world (SDG 16), (ii) the realisation that our planet must be protected from human pollution (SDG 13) and (iii) promote children's interest in science and technology (SDG 4)? The following was agreed:

- 2.1 Increasing a sense of globalism is crucially important in tackling the several global threats to the survival of our species, such as climate change, pandemics, ethnic conflicts, nuclear war, extreme nationalism, populism and racism.
- 2.2 One of the most effective ways of stimulating globalism is to excite young children with the beauty and enormity of the Universe, thereby broadening their perspective about the tiny planet that we all must share with each other.
- 2.3 The iconic pictures of our earth seen from space as a tiny “dot” is a unique inspirational tool for convincing young children the need to think globally⁴.
- 2.4 A child's world-view begins to form at an early age, indicating that development of a sense of globalism can best begin before a child is 10 years old^{5,6,7}.

3 Funded with partial support of Grant 483.20.005 from NWO, the Netherlands Organisation for Scientific Research

4 Sagan, C. Pale Blue Dot, Random-House (1994)

5 UNICEF (2006), “Programming Experiences in Early Childhood Development”, available at: <http://tinyurl.com/unicef-childhood-report>

6 “Belonging, Being and Becoming”, Commonwealth of Australia, ISBN 9780642778185 (2009)

7 Doyle, O. (2020) “The first 2000 days and children's skills”. *Journal of Political Economy*, 128(6)

Conclusion of the Dialogue – a new vision for stimulating globalism

Our most important conclusion is that to advance the SDGs:

“Before they are 10 years old, every child should be introduced to the inspiring notion that we all inhabit a tiny planet in a vast wonderful Universe, illustrated by the iconic pictures of our earth taken from space. This will help them realise that we all belong to a common humanity (SDG 4.7), who must respect and protect our planet (SDG 13) and advance the cause of peace (SDG 16)”

We urge that sufficient attention and resources be made available by the United Nations, national governments, industry and philanthropic organisations so that the above vision for stimulating globalism to advance the SDGs can be achieved within the 2030 Agenda for Sustainable Development and certainly before 2045.

Next Steps

A multidisciplinary global educational initiative should be launched, possibly under auspices of the UNESCO Global Citizenship Education programme, that would help advance a sense of globalism by introducing young children to a cosmic perspective. It should combine top-down and bottom up approaches, distributing and translating relevant educational resources, adapted to local national and cultural needs, with attention to ensuring gender equality. Where appropriate, the programme should also include on-line tools and training for teachers in explaining the cosmic perspective and its implication for global citizenship.

A stepwise plan should begin with pilot projects in several diverse world regions, with targets that include disadvantaged children⁸. The pilots would gradually be expanded to cover all countries within the 2030 Agenda for Sustainable Development. Besides fulfilling an important educational goal, the programme would be an international research platform for conducting research into the effect on how the global world-view of children is affected on the long term by learning about our enormous wonderful Universe. Such research would follow the lines of Heckman’s famous Perry Preschool Project⁹ that studied the lifetime benefit of early education.

8 Arnold, D.H., Doctoroff, G.L. (2003), “Early education of socioeconomically disadvantaged children”, *Ann Rev. Psych.*

9 Schweinhart, L. J. et al. (2005), “The HighScope Perry Preschool study through age 40”, HighScope Press

Involvement of the United Nations

In the spirit of the UN GA75 Dialogues, we respectfully request the UN Secretary General to urge national governments, industry and philanthropic organisations to foster the importance of globalism in education and specifically to advance the vision of this Dialogue within the 2030 Agenda for Sustainable Development and before 2045. A commitment by the UN would help stimulate both the attention and resources that are needed for achieving our vision for advancing the SDGs.

In light of the inspirational keynote address by the Minister of International Relations and Cooperation of the Republic of South Africa and the supportive message of a member of the European Parliament, we suggest that the Secretary General consult with South Africa and other member states about possible support of this vision through a resolution at the General Assembly. In the view of all participants, implementation of the vision of this Dialogue can play a crucial part in making the world a better place. We would appreciate the opportunity of discussing this further with the Secretary General or other interested parties.

APPENDIX: Programme

<https://www.youtube.com/watch?v=zip1o82iuXQ&t=3395s>

Chair George Miley | Emeritus Professor of Astronomy, Leiden University, The Netherlands

- 14.00 – 14.05** ***Welcome. Purpose of Dialogue***
- 14.05 – 14.15** ***Keynote address (Prerecorded)***
Naledi Pandor | Minister of International Relations and Cooperation of the Republic of South Africa and Honorary Professor of Astronomy for Development at Leiden University, the Netherlands
- 14.15 – 14.25** ***Messages***
Barry Andrews | MEP European Parliamentary Delegation for Relations with South Africa (Prerecorded)
Declan Kirrane | Coordinator, EU Africa Radio Astronomy Platform
- 14.25 – 14.30** ***First 2 children's videos***
- 14.30 – 14.40** ***Astronomy for Development***
Kevin Govender | Director, International Astronomical Union Office of Astronomy for Development, Cape Town, South Africa
- 14.40– 14.50** ***The Pale Blue Dot Project***
Michelle Willebrands | Project, Manager, International Astronomical Union European Regional Office of Astronomy for Development, Leiden University, The Netherlands
- 14.50 – 14.55** ***Second 2 children's videos***
- 14.55 – 15.05** ***Educational Materials for Pale Blue Dot***
Cecilia Scorza | Coordinator for public outreach and school contacts, Faculty of Physics, Ludwig Maximilian University of Munich, Germany
- 15.05 – 15.15** ***Early Childhood Education and Economics of Human Development***
Orla Doyle | Associate Professor of Economics, University College Dublin, Ireland
- 15.15 – 15.25** ***Astronomy education for global citizenship in Indonesia***
Premana Premadi | Professor of Astrophysics and supervisor of Bosscha Observatory, Institute of Technology, Bandung, Indonesia
- 15.25 – 15.30** ***Third 2 children's videos***
- 15.30 – 15.40** ***UNESCO Global Citizen Education Programme and Astronomy***
Lydia Ruprecht | Global Citizenship Education Team Leader, UNESCO
- 15.40 – 16.00** ***Discussion moderated by***
Pedro Russo | Professor of Astronomy and Society, Leiden University, The Netherlands
- 16.00 – 16.05** ***Closing words***
Ewine van Dishoeck | President, International Astronomical Union and Professor of Molecular Astrophysics, Leiden University, The Netherlands