International Dialogue on STEM Education: DEVELOPING A VISION FOR EARLY EDUCATION

STIFTUNG KINDER FORSCHEN – MINT-Bildung für nachhaltige Entwicklung

SIEMENS | Stiftung

+++ Press release +++

Publication on impact networks:

"Agents of change": Networks enhance innovative early STEM Education – suggests new learning paper by leading international STEM organisations

The six member organisations of the International Dialogue on STEM Education (IDoS peers) release a learning paper: "How can networks help encourage the development and professionalisation of innovative early STEM Education in a changing world?", that highlights the impact of networks among diverse actors and initiatives engaged in early STEM Education. In a world marred by crises and growing complexities, the paper recommends network-building and collaboration to ensure children receive quality STEM Education.

Berlin/International, June 14, 2023: The world is becoming more complex. In the face of the climate crisis, the Covid-19 pandemic, social inequality, and the changes brought by digitalisation, children today need to acquire skills and competencies to cope with future challenges. Thus, extensive advocacy for quality early education in science, technology, engineering/computer science, and mathematics (STEM) is needed, as it promotes critical thinking and problem-solving skills in children and benefits community members and societies around the globe. In their learning paper, the six IDoS peers **Stiftung Kinder forschen, Siemens Stiftung, Smithsonian Science Education Center, LUMA Centre Finland, Fondation La main à la pâte, and the Office for Climate Education (OCE)** demonstrate how impact networks (formed to address complex social or environmental issues) can enhance innovative early STEM Education. As experts in this field, the peers aim to support field-developing institutions to increase the impact of their work for a better and easily accessible education worldwide.

Paper lists criteria for successful networking in STEM Education

In the paper, the peers draw on scientific findings combined with their own experiences of impactful collaborations. The paper presents five types of networks (**Resilience Networks, Scale Networks, Action Networks, Movement Networks, and Learning Networks**) and identifies key factors that determine the success of a collaborative network. These include a good **strategy and stewardship** of the network, sufficient **resources and funding**, high **motivation and commitment** of network members, the application of effective practices of **monitoring, evaluation, accountability, and learning (MEAL),** as well as the network's ability to adapt to the **context and complexity** they are faced with.

GEFÖRDERT VOM
Bundesministerium für Bildung und Forschung

PARTNER
Siemens Stiftung
Dietmar Hopp Stiftung
Dieter Schwarz Stiftung
Friede Springer Stiftung

PARTNER VON „IDOS"
DAAD Deutscher Akademischer Austauschdienst German Academic Exchange Service
OECD
UNESCO Organisation der Vereinten Nationen für Bildung, Wissenschaft und Kultur
unter Schirmherrschaft der Deutschen UNESCO-Kommission

Dr Nina Smidt, Managing Director and Spokesperson of the Board at Siemens Stiftung, says: “We can address the global challenges only by connecting people, communities, and societies. The IDoS network’s learning paper bears testimony to this: Joint exchanges help identify meaningful and pressing themes in the STEM field. By learning, exchanging, and experiencing together as sparring partners and in the process realising United Nation’s Sustainable Development Goal (SDG) number 17: ‘Revitalising the global partnership for sustainable development’. The 17 SDGs can only be met if the global community combines forces to work together.”

Michael Fritz, Executive Manager of Stiftung Kinder forschen, adds: “Our network partners in Germany enable us to scale up our continuing professional development programme for teachers and educators all over the country, thus ensuring that as many children as possible get a quality STEM Education. Similarly, other IDoS organisations cooperate with networks in their respective countries and even across borders. This paper demonstrates how a strategic interplay of actors from education, politics, business, science, and society gives the field of early STEM Education the attention and support it deserves.”

Combined expertise to drive change

IDoS defines itself as a learning network, formed to exchange and combine knowledge and best practices from organisations around the world to deal with the growing intricacy of STEM Education. Not only do STEM disciplines become more intertwined as sustainable development goals evolve, but the environments in which they are being taught is changing as well, as they come to include digital tools like Open Educational Resources (OER), blended- or hybrid learning, and online learning. Organisations that specialise in teachers’ training and in the provision of pedagogical resources need to be able to adapt to these new environments. IDoS peers pave the way for networks to become “education ecosystems”: supporting and implementing national education policies, increasing the capacity of teachers and educators, and improving access to STEM Education worldwide. IDoS peers share a common vision of educational innovation, whereby STEM Education concepts are developed, professionalised, and effectively implemented in networks of different countries in a way that is tailored to local needs on the ground.

Their learning paper is the second publication by members of IDoS. The first publication in 2019 argued for an integrated approach to STEM Education for Sustainable Development. In 2023, the peer dialogue will focus on the topic of “STEM Education in a digitalised world”.

The full paper can be read and downloaded on this page: https://www.stiftung-kinder-forschen.de/en/international-dialogue-on-stem-education/publications/learning-paper-impact-networks

For further information about the IDoS project, please read and feel free to quote our blog post: https://www.stiftung-kinder-forschen.de/en/international-dialogue-on-stem-education/news/why-we-need-stem-education-networks-worldwide-right-now

Press contact:

Siemens Stiftung
Julia Kirchweger
Head of Media Relations

Kaisserstraße 16
80801 Munich
Tel: +49 (0) 173 1974 271

julia.kirchweger@siemens-stiftung.org

Stiftung Kinder forschen
Nina Henke
Consultant International Dialogue / Research & Monitoring

Rungestr. 18
10179 Berlin
Tel. +49 (0) 30 235940-343

presse@stiftung-kinder-forschen.de

About the "International Dialogue on STEM Education"

The International Dialogue on STEM Education (IDoS) is a joint initiative of **Stiftung Kinder forschen (Little Scientists Foundation)** and **Siemens Stiftung** that promotes high-quality early STEM Education for Sustainable Development.
The IDoS member organisations ("IDoS peers") share the conviction that global developments and the demands for a quality education arising thereof can best be tackled by working together internationally. They are seeking a systematic and regular exchange, combining the global knowledge on STEM Education and its local practice, from which the organisations involved can benefit in a sustainable way. By engaging with leading institutions across the globe, the parties can enhance the efficiency and effectiveness of their work, implementing it in a context-specific, knowledge-based, and practice-oriented manner.

IDoS operates under the auspices of the **German Commission for UNESCO** and the **OECD**; it receives financial support from **Siemens Stiftung** and the **DAAD** (from funding provided by the German Federal Foreign Office).

Find out more about the International Dialogue on STEM Education (IDoS): https://www.stiftung-kinder-forschen.de/en/international-dialogue-on-stem-education

About the Stiftung Kinder forschen

The non-profit Stiftung Kinder forschen (Little Scientists Foundation) is Germany's largest early childhood education initiative in the domains of science, technology, engineering/computer science, and mathematics (STEM). With an accompanying focus on Education for Sustainable Development

(ESD), the aim of the programme is to strengthen children for the future, provide them with important skills, and enable them to act in a sustainable way. Together with its local network partners, the Foundation provides a nationwide continuing professional development programme that supports pedagogical staff at early childhood education and care centres, after-school centres, and primary schools in facilitating the exploration, inquiry, and learning of children between the ages of three and ten. The partners of the Stiftung Kinder forschen are Siemens Stiftung, the Dietmar Hopp Stiftung, the Dieter Schwarz Foundation, and the Friede Springer Stiftung. It receives funding from the German Federal Ministry of Education and Research (BMBF).

Find out more about the Stiftung Kinder forschen: https://www.stiftung-kinder-forschen.de/en/about-us

About Siemens Stiftung

As a non-profit foundation, Siemens Stiftung promotes sustainable social development, which is crucially dependent on access to basic services, high-quality education, and an understanding of culture. To this effect, the Foundation's project work supports people in taking the initiative to responsibly address current challenges. Together with partners, Siemens Stiftung develops and implements solutions and programs to support this effort, with technological and social innovation playing a central role. The actions of Siemens Stiftung are impact-oriented and conducted in a transparent manner. The geographical focus of its work is on regions in Africa and Latin America as well as Germany and other European countries.

Find out more about Siemens Stiftung: https://www.siemens-stiftung.org/en/