

Press release
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Promoting creativity in science teaching: the Design Thinking in STEM project gets underway in Germany

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Design thinking fosters problem-solving skills, encourages critical thinking, and supports students' ability to innovate and work in teams. Siemens Stiftung gained numerous experiences with this progressive approach to education through the *Design Thinking in STEM* project in Africa and Latin America. The foundation relies on the expertise of the HPI School of Design Thinking in Potsdam to help adapt the method to local education systems. Since November, students at the HPI D-School have been developing a training concept aimed at educators as part of a university project. The concept incorporates the requirements of the German school system and is set to be launched in 2022.

An interdisciplinary team of students at HPI D-School is tackling the issue of how to combine the Design Thinking concept in STEM (science, technology, engineering and mathematics) with the skills targets in science curriculums, while also tailoring it to meet teachers' needs. Close collaboration with educators is at the heart of the project to ensure that it incorporates the practical realities of everyday school life.

The project aims to systematically integrate the design thinking teaching and learning method into science lessons in an effort to place an even greater focus on promoting creative problem-solving skills and develop students' ability to innovate, collaborate and engage in critical thinking. The United Nations' Sustainable Development Goals (SDGs) provide the thematic framework for the concept. Although the SDGs list global challenges, each also has a strong local connection. This means that STEM lessons can analyze and outline specific challenges like drinking water shortages or sustainable power generation before sketching out practical solution approaches in an iterative process.

"Integrating design thinking in science teaching in Germany is a fascinating challenge, both for the student team and for the D-School," said Professor Ulrich Weinberg, Director of the HPI School of Design Thinking. "Unfortunately, students all too often learn to compete with one another, develop sharp elbows and strive to be better than their peers. At the D-School, however, we have seen that complex problems can be solved more enjoyably, quickly and effectively when people contribute their diverse expertise and work together in a team."

The training concept for STEM teachers in Germany is set to be presented in February 2022. The format has already been decided, with plans for scalable training seminars that combine a virtual format with collaborative in-person exercises. In addition, the hybrid format will be supplemented with learning content made available free-of-charge as Open Educational Resources.

Siemens Stiftung kicked off the *Design Thinking in STEM* project back in 2019, together with the Danish organization The Index Project in South Africa. In collaboration with local experts, a comprehensive program of analog and digital

training sessions for educators in Africa and Latin America has been developed, with an additional, with an additional train-the-trainer program added in the middle of this year.

Dr. Nina Smidt, Managing Director and Spokesperson of the Board of Directors at Siemens Stiftung: "It is only together that we can overcome the complex challenges of our times. That goes for promoting teamwork and innovation skills in schools, as well as our cooperations with partners in the context of project development. We are particularly pleased to have such an innovative educational institution by our side in the HPI D-School, which teaches design thinking and follows a collaborative mindset."

By adapting *Design Thinking in STEM* for use in Germany, Siemens Stiftung is again underscoring its commitment to education on sustainable development. Its work focuses on training socially oriented, robust individuals who can apply their wide-ranging skills and abilities to play an active role in shaping the future.

HPI School of Design Thinking

The HPI School of Design Thinking was founded by Hasso Plattner in Potsdam in 2007, based on the model of the Stanford d.school. Since then, it has become the European center for design thinking education. Every year, the HPI D-School offers 300 places for a supplementary study course in the Design Thinking innovation approach. In small, multidisciplinary teams, students from all kinds of fields develop innovative and human-centered solutions to complex practical problems, collaborating closely with project partners from companies, NGOs and political institutions. As the initiator of the Global Design Thinking Alliance (GDTA), the HPI D-School promotes the exchange between design thinking schools, including in Egypt, Malaysia and South Africa.
hpi.de/en/school-of-design-thinking

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.
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