Department of Mathematics
and Computer Science

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STEM what is a conducive learning environment?

SDU

2021

In research collaboration with

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→Purpose
→Projects
→Projections: Looking ahead

Purpose

→ experience-centered research, design and development

→ to advance experiences of engagement with nature, science and technology through education, communication and outreach

→ to support life-long learners in developing knowledge and understanding of the world

Projects ongoing

- → **LabSTEM (Novo Nordisk Foundation + Region Syddanmark)**
- → Early Childhood Science Experiences (Lundbeckfonden)
- → ParentSTEM (Erasmus+)
- → MatKULT (EU Interreg)
- → Transdisciplinary Research Combining Arts & Sciences (Erasmus+)
- → STEM Technology Pact
- → Connected Classroom Nordic / Quality in Nordic Teaching
- → Systemic School Development (SDU)
- → **QiTian Design Principles for Educational Spaces (Stanford)**

Project: LabSTEM Teacher Training with attention to Maths 2020-2022

- → Develop STEM pedagogy - with particular attention to Mathematics
- → Teacher competence development

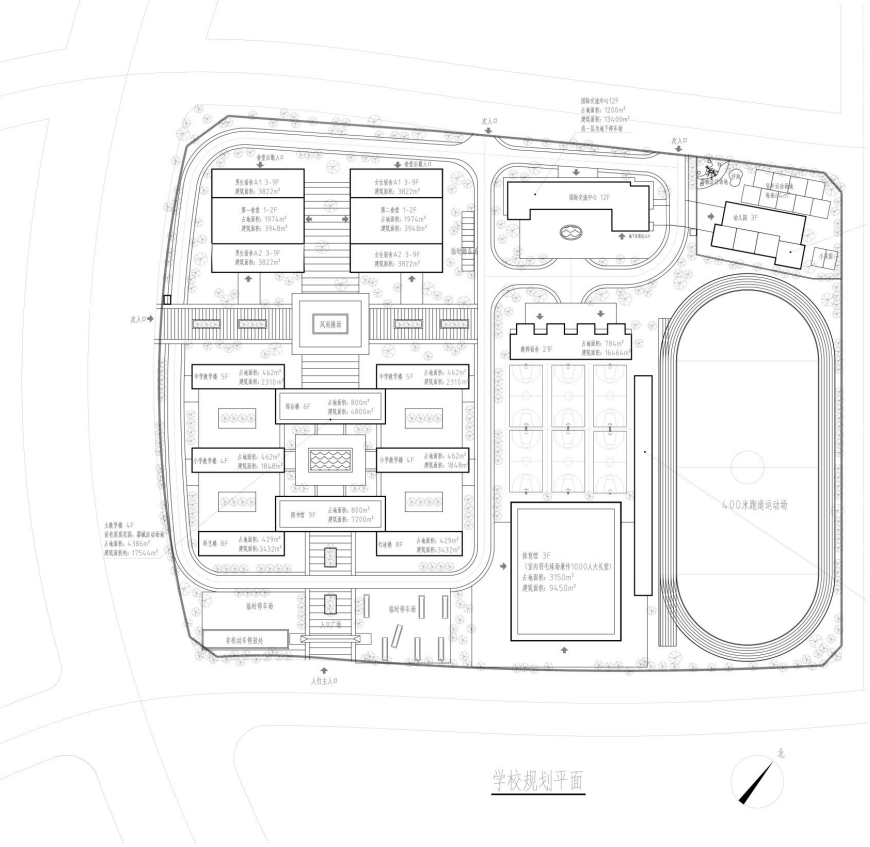
- → Transdisciplinary learning network facilitated by Professional Teacher Educator Committee
- → Participation from 150+ teachers and early childhood educators
- → 9 regional laboratories
- → Workshop-based
- → Is being scaled nationally

Projections: Looking ahead

→ How do we collaborate with teachers and early childhood educators on designing STEM conducive learning environments?

→ What is the role of school leadership in creating STEM conducive learning environments?

→ How do we nourish and maintain learner engagement?



Project: QiTian Design Principles for Educational Spaces

→ New K-12 international school to be built, QiTian (China)

→ Stanford research and design

→ Implementing ‘design thinking’ as innovative pedagogy in China

中国广州珠海　启天国际学校

QiTian International School
ZhuHai, Guangzhou, China

Projections: Looking ahead

- → How can we use design strategically in development of education?
- → How do we culturally and creatively translate innovative pedagogy?
- → How do we create a conducive learning environment?
- → How can educational technologies and media support?

→ Projections: Looking ahead

- → Design Principles for Education Spaces
  - → Localized design ecology
  - → Participatory
  - → Open and sharing system
  - → Online and connected
  - → Training and leadership
  - → Modes of teaching and learning
  - → School management
  - → Physical and social environment
  - → Information and communication technology and resources
  - → Atmosphere and Culture

When we design schools, we design worlds

When we design spaces and situations for learning, we design futures