

# Thinking & Acting Like a Designer: How design thinking supports innovation in K-12 education

## EXECUTIVE SUMMARY

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مؤتمر القمة العالمي للابتكار في التعليم

An Initiative of Qatar Foundation

**IDEO**

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## Executive Summary

### **The needs of the twenty-first century demand new approaches to learning.**

Today, student success requires skills for collaboration, creativity, critical thinking, and problem solving, and these skills are increasingly becoming a focus in both K-12 and higher education settings. But twenty-first century learning needs to be much more if we are to expect young people to both navigate an unknown and complex future and meet the challenges that accompany it.

We need change-makers, people who will redefine problems, inspire new ideas, take informed risks, and never stop learning. Change-makers implement and evolve solutions that aim to better the individual and the whole, be it a classroom, a school, a community, or a society. This is the approach of a designer and the focus of this publication.

Design touches all aspects of our world. As this publication shows, designers work to impact the human experience, and they generally do this with particular mindsets that encourage looking at challenges as opportunities for design. Four mindsets typically guide the behavior of a designer: human-centered, collaborative, optimistic, and experimental. Designers also often act in a particular way, following a process that helps them generate and evolve ideas, beginning with problem-defining and empathy, using synthesis and prototyping to develop strategic ideas, and ending with implementation.

Taken together, how designers think and act make for design thinking, a human-centered approach to creative thinking and problem solving. Thinking and acting as a designer and, in turn, employing design thinking are powerful ways to encourage people to become change-makers in education.

Over the past two decades, interest in using design thinking in K-12 settings has grown dramatically. In spite of this growth, insufficient attention has been given to the importance of design thinking as a component of an educator's professional toolkit. Minimal guidance has been offered on how to support design thinking in education and on what guidelines, best practices, and professional development are needed for successful implementation. Through a consideration of current research and practice, this publication is intended to contribute toward filling that gap with three principal objectives:

- Showcase best and forward-looking practices and new ideas of design thinking in K-12 education
- Provide recommendations and potential implications to inform practitioners interested in applying design thinking to their K-12 educational settings
- Identify provocative questions that will drive further research

This publication draws from efforts in a variety of countries, including Bhutan, Britain, Colombia, India, Kenya, Portugal, Sierra Leone, Taiwan, and the United States. It also examines the following themes through vignettes culled from longer case studies, and concludes with a series of recommendations for policy makers, practitioners, and academic researchers. Among the publication's key takeaways are the following:

**1. Design thinking is used to fundamentally reimagine school models and systems.**

When design thinking is used to create new schools and school models, it encourages design teams to bring an experimental mindset to that endeavour. This includes questioning assumptions about what school is or should be in favor of what it could be in order to best meet students' needs. Another key component of this approach is working collaboratively with communities to be culturally sensitive and inclusive of students, teachers, administrators, parents, and other stakeholders. Finally, schools and school models that are created using design thinking are adaptable and modular to respond to ongoing shifts as well as different contexts — not just on one site, but increasingly at scale.

**2. Design thinking supports change in school culture by transforming how educators work together.**

Educators who practice design thinking become agents of change by developing optimistic and action-oriented mindsets. Teachers and administrators are using design thinking to collaborate in new ways on both curriculum and school-level challenges. School leaders are inspiring change by starting with a bias for action and small, iterative experiments. They also recognize the need for constant evolution through innovation, and understand their critical role in setting permissions and empowering others to innovate.

**3. Design thinking supports student development of twenty-first century skills.**

Through design challenges, students are learning to activate their creativity and to believe in their power to change the world around them. Design thinking experiences, both in and outside of school, help students develop twenty-first century skills. This publication shows examples of schools that immerse students in design thinking as a way to connect academic subjects to real-world, project-based, hands-on learning experiences.

Moving forward, recommended trajectories to advance design thinking in education through both research and practice include the following efforts:

- Define and assess an array of learning outcomes to better understand the impact of design thinking in education. This requires creating and experimenting with various qualitative and quantitative approaches and includes assessing impacts across multiple institutions and countries. As assessment in K-12 settings presents particular challenges, creative ways of determining impact and success are needed.
- Include design thinking in education at the primary/secondary level, and to involve stakeholders within the ecosystem. K-12 teachers, as well as parents and administrators, need to have a better understanding of what design thinking is and can be in their education systems. This requires including design thinking in teacher training and professional development, and necessitates that schools of education recognize it as a valuable pedagogy worthy of inclusion in their curricula.
- Address the larger issue of formalizing guidelines and best practices in a way that can scale across school systems and countries while maintaining the empathic, active, and experiential approach of design thinking. How might we scale design thinking in a way that drives educational policy and practice at the national level?

Whether readers of this publication are teachers, administrators, parents, students, nonprofit leaders, or policymakers, the goal is to encourage conversations about how design thinking can drive education innovation to better prepare all students for the future. As such, this publication is written for readers with varying levels of familiarity with design thinking, from encountering it here for the first time, already using it in daily practice, or audaciously applying it to systemic challenges.



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