



21st Century Skills

Learning By Design in Massachusetts
architecture and design programs
engage students in
21st Century Skills and Design Thinking.

21st century Learning & Innovation Skills

Creativity & Innovation
Critical Thinking & Problem-solving
Communication & Collaboration

- analyze & synthesize information
- brainstorm, refine & evaluate ideas
- communicate & collaborate
- think creatively & implement innovations
- engage in “purposeful, reasoned and goal-directed” inquiry
- understand systems, patterns & context
- view failure as an opportunity to learn

“All 21st century skills can and should be taught
in the context of core academic subjects.”

21st century Life & Career Skills

- initiative & self-direction
- flexibility & adaptability
- leadership & responsibility
- productivity & accountability
- social & cross-cultural skills
- empathy & global understanding

“As we move from the Information Age to the Conceptual Age, we’ll need: **creative and empathetic minds**, to produce a vision for how we intend to make the world a better place for everyone; **analytical intellectual skills**, to assess our vision and those of others; **practical intellectual skills**, to carry out our vision and persuade people of its value; and **wisdom**, to ensure that our vision is not a selfish one.”



Design Thinking

Designing Future Design Thinkers

“Our future capacity for innovation depends on having many more people literate in the holistic principles of *design thinking*, just as our technological prowess depends on having high levels of literacy in math and science.”

Building to Think

“By the age of ten I had learned the power of *prototyping*... like every other kid I was learning with my hands... this shift from physical to abstract and back again is one of the most fundamental processes by which we explore the universe, unlock our imaginations and open our minds to new possibilities.”

Design as a 21st century Skill

Howard Gardner cites “the creating mind” as one of the five minds we will need in the future. “A Whole New Mind” describes six 21st century aptitudes. **Design** tops that list.

Design as a Catalyst for Learning

Teaching by Design:

- is inherently interdisciplinary
- encourages systems thinking
- reaches all learner types
- makes connections between school and life
- cultivates responsible citizens
- transforms the teacher from authority to facilitator

“A teacher, ideally conceived,
is a designer
who helps learners
to design themselves.”

References:

- “Change by Design” (Tim Brown)
- “Design as a Catalyst for Learning” (Meredith Davies)
- P21 The Partnership for 21st century Skills
- “What it Takes to Succeed in the Future” (Nellie Mae Educational Foundation; Jobs for the Future)
- “A Whole New Mind” (Daniel Pink)

