



CENTER FOR  
CURRICULUM  
REDESIGN

# Redesigning the Curriculum for a 21<sup>st</sup> Century Education

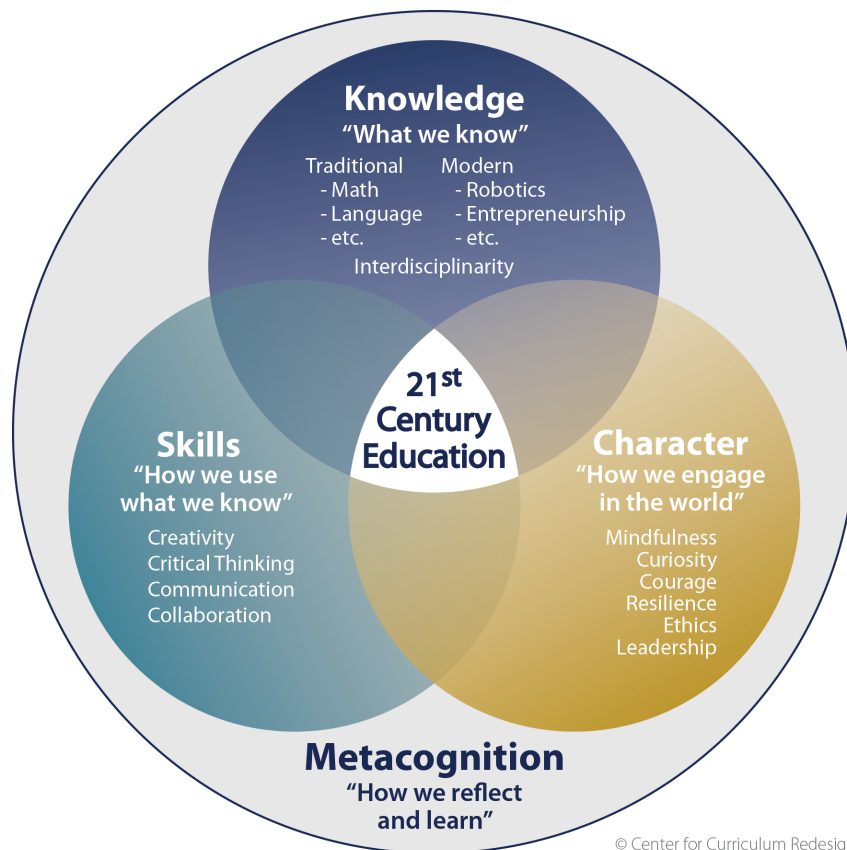
The CCR Foundational White Paper

[www.curriculumredesign.org](http://www.curriculumredesign.org)

© Charles Fadel / Center for Curriculum Redesign – 2015 All Rights Reserved.

In the 21<sup>st</sup> century, humanity faces severe challenges at the societal (climate change, financial instability), economic (globalization, innovation) and personal levels (employability, happiness). Technology's exponential growth is rapidly compounding the problems via automation and offshoring, which are producing societal disruptions. Education is falling behind the curve<sup>1</sup>, as it did during the Industrial Revolution. Yet more crucially than ever, *humanity is searching for its sustainable future.*

The last major changes to curriculum<sup>2</sup> were effected in the late 1800's as a response to the sudden growth in societal and human capital needs. As the world of the 21<sup>st</sup> century bears little resemblance to that of the 19<sup>th</sup> century, education curricula are overdue for a major redesign, *emphasizing depth of understanding and versatility.* Curricula worldwide have often been tweaked, of course, sometimes to a large extent, but have never been *deeply* redesigned for all the dimensions of an education: Knowledge, Skills, Character, and Metacognition. Adapting to 21<sup>st</sup> century needs means revisiting each dimension and their interplay:



- ❖ **Knowledge – Essential, but more relevance required:** Students' lack of motivation, and often disengagement, reflects the inability of education systems to connect the content to real-world relevance. Relevance is also critically important to economic and societal needs, not only to satisfy students' wishes. Thus, there is a profound need for curricula to rethink the significance and applicability of *what* is taught, and simultaneously to strike a better balance between the conceptual and the practical. Traditional subjects (Maths, Language, etc.) are of course essential, and must be augmented by modern disciplines (such as Robotics, Entrepreneurship, etc.). Tough choices must be made about what to pare back in order to allow for more appropriate areas of focus (for instance in Maths, more statistics & probabilities, and less trigonometry), including concomitant depth that will cultivate the other three dimensions (Skills, Character, Metacognition).

*Interdisciplinarity* is viewed as a strong binding mechanism for many modern disciplines, and the practices they require for the learning of the Skills, Character and Metacognition dimensions. For example, new Interdisciplinary fields that are already relevant to tomorrow's world may be Robotics, Biosystems, Social systems, Wellness, Entrepreneurship, Media, Journalism, etc.

- ❖ **Skills<sup>3</sup> – Necessity for education outcomes:** Higher-order skills (such as the “4 C’s” of Creativity, Critical thinking, Communication, Collaboration, also known as “21st Century Skills”<sup>4</sup>) are essential for deeply learning Knowledge as well as for demonstrating understanding through performance<sup>5</sup>. Yet the curriculum is already overburdened with content, which makes it much harder for students to acquire (and teachers to teach) Skills via projects. There is a reasonable global consensus on what the Skills are at the broadest level<sup>6</sup>, and how different pedagogies can affect skills acquisition. Yet in spite of this consensus, there are two major barriers which prevent building deep dives into curriculum:
  - overwhelming amounts of prescribed content for each school year allows little time to address Skills; *and*
  - lack of support for educators in combining knowledge and skills in robust pedagogies and deeper learning experiences.
  
- ❖ **“Character”<sup>7</sup> – How we engage in the world:** In order to face an increasingly challenging world and to benefit civil and civic society, the following reasons for Character education have been identified<sup>8,9</sup>:
  - Inevitability through the education system – educators are models of behavior.
  - Intellectual authorities’ call through history – numerous education philosophers have made a case for it.
  - Public support is generally widespread.
  - Law-based – many countries have supportive laws/codes.
  - Cultural indicators of need, and the impact of the media.<sup>10</sup>
  - Societal and personal challenges: violence, divorce, etc.
  - Global challenges: Greed (climate change, financial instability, personal privacy) and intolerance (religious fundamentalism, political absolutism).

The challenges for school systems are similar to those for Skills, with the extra complexity of accepting that Character development is also becoming an intrinsic part of the mission of public schools, as it is for private schools. Yet Character learning is also likely to happen in out-of-school settings such as sports, scouting, adventure trips, etc. which heightens the challenge.

CCR’s Character framework<sup>11</sup> identifies the following six essential Qualities: Mindfulness; Curiosity; Courage; Resilience; Ethics; and Leadership, in which all other qualities and concepts can be fitted.

- ❖ **Metacognition – The best hedge against continuous changes:** Metacognition – the awareness of one’s own learning and cognitive ability – is essential for activating transference, building expertise, and establishing lifelong learning habits. Metacognition for learning, often called “learning to learn”, involves the learner *reflecting* on all three of the key learning processes in the CCR framework as they perform these learning tasks: gaining *knowledge* and understanding, building *skills*, and developing *character* qualities.

## Calling for a 21<sup>st</sup> Century Education

Historical inertia has been so far a large deciding factor when it comes to curriculum design, at the policy/process level as well as given the human dynamics involved. For policy at the system level, most countries face political life-cycle instabilities that make it hard for systems to innovate in an ambitious way due to the lack of continuity, and thus generally preclude the removal of obsolete topics. As for human dynamics, decisions are made by subject-matter experts – e.g., math decisions are made by math experts – in relative isolation from the demands of the real-world (and the users of the discipline itself), and thus tend to take an incremental (and perhaps overly collegial) approach. Herein lies *the deep value to jurisdictions of the Center for Curriculum Redesign: it is a non-political, and non-dogmatic forum.*

Most of the education transformation efforts worldwide are focused on the How of education, which is very laudable. But very little is being done about the What. Education much needs an innovative curriculum adapted to the needs of the 21<sup>st</sup> century student and society: *Is Education relevant enough for this century? are we educating students to be versatile in a world that is increasingly challenged and challenging?*

The Center for Curriculum Redesign addresses the fundamental question of "WHAT should students learn for the 21<sup>st</sup> century?" and openly propagates its recommendations and frameworks on a worldwide basis. The CCR brings together non-governmental organizations, jurisdictions, academic institutions, corporations, and non-profit organizations including foundations. Please [join us](#) on this exciting journey.

**Charles Fadel**

Founder and Chairman  
Center for Curriculum Redesign  
[www.curriculumredesign.org](http://www.curriculumredesign.org)

<sup>1</sup> Goldin, C. & Katz, L. (2009). *The race between education and technology*. Harvard University Press.

<sup>2</sup> Also known as "standards", "programmes" etc. depending on the country.

<sup>3</sup> There is no word that works equally well in all languages to convey the meaning of "Skills", which ends up being the best compromise. It could be "competencies", "savoir-faire", "proficiencies", etc.

<sup>4</sup> Trilling, B. & Fadel, C. (2009). *21<sup>st</sup> century skills*. Wiley — [www.21stcenturyskillsbook.com](http://www.21stcenturyskillsbook.com)

<sup>5</sup> The Conference Board's "Are they really ready to work?"; AMA "Critical skills survey"; PIAAC program (OECD); etc.

<sup>6</sup> [www.oecd.org/site/piaac/mainelementsofthesurveyofadultskills.htm](http://www.oecd.org/site/piaac/mainelementsofthesurveyofadultskills.htm)

<sup>7</sup> Just as for "Skills", there is no perfect word that covers all meanings of "Character" in all languages; for instance, it may be "personality" in some. So, by "Character" we mean all of related terminology such as: "Agency, Attitudes, Behaviors, Dispositions, Mindsets, Personality, Temperament, Values". And CCR objects to the use of the improper "non-cognitive" or "soft skills" and much prefers the OECD's use of "Social and Emotional Skills".

<sup>8</sup> Ryan, K. & Bohlin, K. (1999). *Building Character in Schools*. San Francisco: Jossey-Bass.

<sup>9</sup> As yet another important voice, UNESCO has stated: "There is every reason to place renewed emphasis on the moral and cultural dimensions of education... this process must begin with self-understanding through... knowledge, meditation and the practice of self-criticism."

<sup>10</sup> Lickona, T. (2004). *Character matters: How to help our children develop good judgment, integrity, and other essential virtues*. Simon and Schuster.

<sup>11</sup> <http://curriculumredesign.org/wp-content/uploads/Character-Frameworks-CCR-Synthesis-Charles-Fadel-Final.pdf>