Integrating Character Education and Common Core State Standards for K-8 Mathematics

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Thank You to New & Founding Funders

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Sandy McDonnell

THE POWER OF ONE

Sanford "Sandy" Noyes McDonnell (October 12, 1922 – March 19, 2012) was an American engineer, businessman and philanthropist. A native of Little Rock, Arkansas, McDonnell attended Princeton University, the University of Colorado and Washington University, achieving bachelor's degrees in economics and mechanical engineering as well as a master's in engineering mechanics.

Former chairman and chief executive officer of McDonnell Douglas Corporation, Sandy was present at the birth of the civilian industry and asthe founder and chairman of the Commercial Space Transportation Association, and has been a key leader in the National Research Council's Committee on Commercial Space Transportation. As a champion of character education Sandy also recognized the need for a focused approach to improve and spread character education throughout Missouri and the nation.
We cannot always build the future for our youth. But we can and DO build the youth for our future.

- Franklin D. Roosevelt

“Throughout history, and in cultures all over the world, education rightly conceived has had two great goals: to help students become smart and to help them become good.” —Thomas Lickona & Matthew Davidson, Smart & Good High Schools (2005)

Persons with good character make a society good, and, in the long run, they lead the most satisfying lives. The importance of character is so generally understood and accepted that character is ranked by most people as of first importance in the child’s education.

- Havinghurst and Taba (1949)

Character = Performance Character + Moral Character

Moral competencies needed for positive relationships, self-regulation, and responsible adult behavior

- Citizenship
- Compassion
- Cooperation
- Courtesy
- Emotional intelligence
- Empathy
- Forgiveness
- Generosity
- Gratitude
- Honesty
- Humility
- Integrity
- Loyalty
- Manners
- Peacefulness
- Patience
- Self-awareness
- Self-control
- Service
- Trustworthiness
- Truthfulness

Fear of Falling Behind
A Difference in Drive & Diligence

Boe, Boruch, and May, studied the demographic survey attached to the 1995 TIMS test taken by kids of different ages in more than forty countries.

Between countries the differences in diligence turned out to be the single best predictor of how countries performed on the test questions. The thoroughness with which students answered the survey—was more predictive than socioeconomic status or class size or any other factor that had been studied.

May repeated the analysis with the 2009 PISA data the results were consistent.

Reasons for Concern?

- College Graduation Rates
  - 4 year schools: 50%
  - 2 year schools: 30%
- US Graduation Initiative
  - US 10th in world - % with college degree

What do we need to fix this problem?

“College and career readiness” refers to the content knowledge and skills high school graduates must possess in English and Mathematics—including, but not limited to, reading, writing, communication, teamwork, critical thinking and problem solving—to be successful in any and all future endeavors. Of course, readiness for college and careers depends on more than English and mathematics knowledge; to be successful after high school, all graduates must possess the knowledge, habits and skills that can only come from a rigorous, rich, and well-rounded high school curriculum. — Achieve Inc.

How will we get CCR?
Math in the US

The Case of K-8 Math:
MATH NEGATIVITY

MATH POSITIVITY
Start by Triggering Positive Memories

Make Math Positive & Personal
- Describe your best math study habits. What do you do when you get stuck?
- What did you do differently when you were most successful compared to when you were less successful?
- What did past math teachers do that helped you learn best?
- In what ways have you used math outside of school?
- Do your parents, close relatives or friends have jobs or hobbies where they use math? Interview five adults you know to find out!

PERFORMANCE CHARACTER & MATH POSITIVITY
Confidence/self-efficacy leads to Diligence & Perseverance
Teach that Intelligence Grows: Praise Effort Rather Than Ability
Encourage Optimism - avoid the 3 Ps of learned Helplessness - encourage not to see failure as personal, pervasive or permanent.
Use of “not yet” grades
Proficient students are experimenters and inventors; they are active problem solvers that possess the “courage to plunge in and try something” (NCAPB/CCSSO, 2010).

INTELLECTUAL CHARACTER & LEARNING MATHEMATICS
- Courage,
- Carefulness & Precision

Math Practice Standard 6: “Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning” (NCAPB/CCSSO, 2010).

TEACHING MATH & CIVIC CHARACTER
- Democratic values
- Class Meetings

MORAL CHARACTER & MATH
“To educate a person in mind and not in morals is to educate a menace to society.”
President Theodore Roosevelt

Errorless Math Activity
Making Math Real with Social Justice Issues

Close the math distance by making math “real-world” interesting with the concepts of area, density, and ratio:

• Ask students to find the concentration of fast food restaurants in their neighborhood and compare the concentration in a different community.

• Try a global project, like comparing the industrial waste or the emissions produced by various countries, and use Google Earth to produce visuals for public display.

• In Rethinking Mathematics: Teaching Social Justice by the Numbers, Gutstein and Peterson (2005) provide many examples of social justice projects, including several that have produced change.

• For instance, in “Tracking Public Address (PA) Announcements,” students collected and analyzed data to convince their school administration to reduce the number of obtrusive PA announcements (p. 208).

Morality, Climate, and Math

• Tips for Teaching Math Morally
  • Keep a Relational Orientation
  • Focus on Positive Teacher-Student Relationships
  • Enhance Personal Relevance and Being Known
  • Promote Teacher-Student-Parent Relationships
  • Motivate through Self-Affirmation and Personal Values

• Teaching Morality and Math
  • Engagement through Social Justice
  • Grapple with Moral Dilemmas

States that have pulled out of their Assessment Consortium:

- Utah
- Oklahoma
- Georgia
- Alabama
- Indiana
- Kansas
- Missouri
- Pennsylvania
- Alaska
- Florida

States Actively Considering Withdrawing:

- Michigan
- Kentucky
- North Carolina
- Iowa

States that Never Joined:

- Virginia
- Texas
- Nebraska
- Minnesota

Posted by the Missouri Educational Watchdog
Mike saw 17 blue cars and 25 green cars at the toy store. How many cars did he see? Write a number sentence with a □ for the missing number. Explain how the number sentence shows the problem.

\[
17 \times 15 = \square \text{ I got the answer by talking in my brain and I agree of the answer that my brain got.}
\]

Swedish Labor Study


- Sample: 14703 men distributed evenly over 1965-74 birth.
- Universal enlistment age 18 males.
- Evaluation of cognitive ability (test) and noncognitive ability 70-80 item questionnaire and interview by psychologist.
- Examined wages age 31-40.
- Non-cognitive effects on wages and earnings are higher than cognitive for a range of specifications.

GED Study - James Heckman

GED compared to high school graduates who do not enroll in college.
GED earnings well below graduates and even lower than comparably smart dropouts.
Ultimate educational attainments lower than for dropouts who do not take GED.
GED holders have fewer/weaker non-cognitive skills that affect employment.

Basic Needs of Students

- Deci and Ryan
  - Autonomy (sense of empowerment)
  - Belonging (social connectedness)
  - Competence (ability to achieve/succeed)
- Eccles
  - Mattering (make a meaningful difference)
  - Responsibility (contributing group member)
  - Engagement (challenge and enjoyment)
  - Identity (knowing one’s place in a social context)
Independent Effects of non-cognitive (Perry Preschool)

- Perry preschool—initial test score advantage faded in early grades. But assessment at age 40 showed: earnings advantage of one third; half the crime conviction rate.
- Higher graduation rates and more positive attitudes towards schools.
- Something other than academic achievement must explain.

Thank You

Full Contact Information in your Conference Materials and at www.characterandcitizenship.org