Non-cognitive Skills and Education Policy: Research and Practice Considerations

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education Equipping students with the mindsets, essential skills, and habits they need to succeed

Ready to be Counted?

Why Non-cognitive Skills Need to be Responsibly Incorporated into Education Policy Now

1. Multiple lines of research persuasively show that non-cognitive skills predict and influence success in academics, careers, and life.

2. Educators believe in the importance of social-emotional learning and already invest large amounts of time and money into uncoordinated, unaccountable efforts to build these skills.



Transforming Education operates at the intersection of education systems and scientific research

Strategic advisor to education systems serving more than 1 million students



With a national network of leading scientists, partner in new research and foster shared learning

Transforming Education marshals this expertise to advance:

- 1. Collaboratories
- 2. Knowledge sharing
- 3. Policy



There are many different terms and frameworks for describing non-cognitive skills





The National Academy of Sciences offers a useful framework



Source: National Research Council. Education for Life and Work: Developing Transferable Knowledge and skills in the 21st Century [PowerPoint slides]. Retrieved from: http://www.p21.org/storage/documents/Presentations/Education_for_Life_and_Work_Feb_2013.pdf

For non-cognitive skills to be relevant to schools, these skills must be meaningful, measurable, and malleable

Non-cognitive skills are importantly predictive of <u>academic</u> and career success, and life well-being outcomes

transforming education Non-cognitive skills are importantly predictive of academic and <u>career</u> success, and life well-being outcomes

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<u>Meaningful</u>: Dunedin Study—self-control in childhood predicts lifelong outcomes

40+ year longitudinal study of all 1,037 children born in a single year (1972 – 1973) in Dunedin, New Zealand

The Life Cycle of the Dunedin Study Participants

Source: Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., Houtes, R., Poulton, R., Roberts, B., Ross, S., Sears, M., Thomson, W.M., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, *108*(7), 2693-2698.

<u>Meaningful</u>: Dunedin Study—self-control in childhood predicts lifelong outcomes, including health, income, and well-being

Source: Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., Houtes, R., Poulton, R., Roberts, B., Ross, S., Sears, M., Thomson, W.M., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, *108*(7), 2693-2698.

<u>Meaningful</u>: Students' non-cognitive skills are important predictors of educational attainment, employment, and wages

Probability of Being a 4-Year College Graduate by Age 30 by Decile of Cognitive and Non-cognitive Factors (males); National Longitudinal Survey of Youth, 1979

A male student's noncognitive skills were <u>as important as</u> his cognitive skills in predicting whether he would earn a bachelor's degree. **Heckman et al. 2006**

Note: Non-cognitive factors are measured by the Rotter Locus of Control scale and the Rosenberg Self-Esteem Scale Source: Heckman, Stixrud, Urzua, S. (2006). "The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior." *Journal of Labor Economics* 24(3), 411-482.

<u>Meaningful/Malleable</u>: The Perry Preschool Study—early intellectual/social development opportunities predict academic outcomes, earnings, and criminal involvement

<u>Malleable</u>: Tools of the Mind executive function intervention impacts reading

Executive functioning: regulation tied to attention, emotion, and physical response to environmental stimulation

Source: Blair, C. & Raver, C. (2014). Closing the achievement gap through modification of neurocognitive and neuroendocrine function: results from a cluster randomized controlled trial of an innovative approach to the education of children in kindergarten. *PLOS One* 9(11), 1-13

Malleable: Growth mindset intervention impacts math performance

Growth Mindset: belief that intelligence is malleable, not fixed

Source: Blackwell, L., Trzesniewski K., and Dweck, C. (2007). Implicit Theories of Intelligence Predict Achievement Across an Adolescent Transition: A Longitudinal Study and an Intervention. *Child Development* 78 (1), 246-263.

<u>Meaningful/Malleable</u>: High-quality kindergarten affects lifetime earnings

The New York Times

"Mr. Chetty and his colleagues...estimate that a standout kindergarten teacher is worth about \$320,000 a year. That's the present value of the additional money that a <u>full class</u> of students can expect to earn over their careers. This estimate doesn't take into account social gains, like better health and less crime."

- Chetty et al. show high-quality kindergarten is correlated with higher earnings and an increased likelihood of attending college
- High-quality kindergarten impacted students' non-cognitive skills (effort, initiative, and lack of disruptive behavior) that were assessed in 4th and 8th grades
- While students' early cognitive/academic gains from high-quality kindergarten dissipated by 4th grade, non-cognitive skill increases remained

Source: Chetty, R., Friedman, J., Hilger, N., Saez, E., Schanzenbach, D., & Yagan, D. (2011). "How Does Your Kindergarten Classroom Affect Your Earnings? Evidence From Project Star." *The Quarterly Journal of Economics* 126 (4), 1593-1660; Leonhardt, D. (2010, July 27). The case for \$320,000 kindergarten teachers. *The New York Times*. Retrieved from http://www.nytimes.com/2010/07/28/business/economy/28leonhardt.html.

Teachers believe social-emotional skills are important and malleable

Sources: Civic Enterprises, Bridgeland, J., Bruce, M., & Hariharan, (2013). The Missing Piece: A National Teacher Survey on How Social and Emotional Learning Can Empower Children and Transform Schools. Collaborative for Academic, Social, and Emotional Learning. Chicago: Author.; Scholastic/Bill & Melinda Gates Foundation Survey, Available at: http://www.scholastic.com/primarysources/teachers-on-teaching.htm

Teachers, principals, and district leaders cite a range of motivations for cultivating students' non-cognitive skills

Why do you currently offer programs and activities relating to social-emotional and / or non-cognitive skills? Please select all that apply:

District Leaders	To To reduce bullying an To prepare To o To address the need	provide a more well-rou d other adverse behavio e students more effective develop more engaged o ds of students with socia	nded education s beyond the classro y for careers itizens -emotional skill defic	bom 82% 82% 82% its 82%]91%
Principals	To h To reduce bullying a To address the nee To help with To help students cope with a	elp improve academic p and other adverse behav ds of students with socia classroom or behavior difficult life experiences and	erformance ors beyond the class I-emotional skill defic management trauma, past or curren	85% sroom 85% cits 83% 80% t 76%	
Teachers	To help with cla To help improv To improv To address the needs of stude To develop more	assroom or behavior ma ove academic performative school climate/culture ents with social-emotiona engaged citizens	nagement nce skill deficits 64% 58%	75% 71% 71%	
() 20	40	60	80	100%

Non-cognitive skill programs currently are operating in thousands of schools, impacting millions of students and teachers

Non-cognitive skill development program	Self-reported market penetration
AVID	Over 4,800 sites
Second Step	Used by approximately 25,000 schools in U.S./Canada
Responsive Classroom	More than 65,000 teachers trained since 1995
ClassDojo	Used in 1 in 2 U.S. schools (at least one classroom in the school) Over 35 million teachers, parents, and students

Estimated total spend on products and resources to promote non-cognitive skills: \$640M per year

Total Spending on SEL Products

Approximately 4.3 hours of teacher time per week are spent on non-cognitive skill development

The allocated cost of teacher time for non-cognitive skill development is \$20-46 Billion

Dollars

Ready to be Counted!

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The School Quality Improvement Index

Brookings Brown Center on Education Policy

March 31, 2015

CORE is a collaboration among 10 California school districts, seven of which have received an ESEA Waiver.

Students in CORE Waiver Districts SY 2013-14 -Sanger Unified 100% Oakland Unified Santa Ana Unified San Francisco Unified 80% Fresno Unified Long Beach Unified Over 1 60% million Other Districts in California students 40% Los Angeles Unified 20% Participating CORE Districts 0% California **CORE** Districts (~2.2 million students) (~1 million students)

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The CORE Waiver represents a collaborative effort to significantly
improve student outcomes and is underpinned by three key beliefs of the CORE districts.

The School Quality Improvement Index (of 2015-16+)

28 Our School Quality Improvement Index will provide a dashboard of indicators, including social emotional skills.

*Denotes items that will require an approved amendment to CORE Waiver by the US Department of Education.

The CORE Superintendents identified an initial set of four socialemotional (SE) competencies to be considered for inclusion in the Index. District staff reviewed research and engaged in a collaborative effort to select these skills based upon **measurability**, **actionability** and **connection to college and career readiness**.

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We worked with experts in the field to develop and pilot measurement instruments in Spring 2014. The pilot validated the strength of these measures at the student level, though it also highlighted important implementation challenges.

	Student Self-Report	Teacher Report		Key Partner				
Grades K-4								
Self-Management		х		Clancy Blair (NYU)				
Social Awareness		х		CASEL / AIR				
Grades 5-12								
Growth Mindset	х			Carol Dweck (Stanford) & Camille Farrington (CCSR)				
Self-Efficacy	х			Camille Farrington (CCSR)				
Self-Management	x	х		Angela Duckworth (UPenn)				
Social Awareness	х	х		CASEL / AIR				

We are currently conducting a field test of these social emotional measures – perhaps the largest measurement effort to date on this skills in a schooling context.

- All CORE Waiver districts are engaged in student self report across each of their schools.
 - Grades five to twelve
 - Estimating 500k(+) student respondents
 - Students, staff and parents are also field testing a self of culture-climate items at the same time
 - One district Fresno Unified is field testing teacher report on students across their entire district, and Santa Ana Unified is continuing to pilot teacher report on students' skills.
- The field test will enable us to:
 - Assess the strength of these measures at the school level.
 - Continue refining the instruments will be included for "stakes" in the SY 2015-16 school year.
 - Introduce school communities to these indicators with suggestions for what they can "do now" to address these skills.

This summer/fall, we will release our first version of the Index to support school communities in their efforts to prepare youth for college and career.

School Quality Improvement System

Certain California districts have developed the School Quality Improvement System, which emphasizes academic achievement, growth, and graduation rate, while also including social-emotional factors and school culture and climate. View this school's report card >

88 School Quality Improvement (SQI) Index 3-year Trend						
All Latino		Low Income			Illustrative	
	THIS	DISTRICT AVERAGE	STATE AVERAGE	TREND		
Performance How well students at this school perform on standardized tests. Learn more >	88	76	65	7	only	
Growth How well the school improves student performance over time. Learn more >	46	55	68	Ы		
Chronic Absenteeism The amount of studnets who attend regularly over the course of the school year. Learn more >	72	69	59	\rightarrow	Not actua	
Culture-Climate Survey Measures a range of factors that contribute to academic achievement. Learn more >	74	75	68	7	data	
Suspension/Expulsion Measures how well the school handles discipline issues for the good of all students. Learn more >	38	56	57	\rightarrow		
Social-Emotional Skills How well does this school support social-emotional skills that have a transformative effect on student outcomes. Learn more >	92	88	87	Ы		
ELL Redesignation Rate How well are students supported in a transition to being fluent English speakers. Learn more >	84	87	83	7		

Designation How the state categorizes this school's rating.

CORE

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CHARACTER COUNTS *Richard Barth, CEO, KIPP Foundation*

KIPP:

KIPP, the Knowledge Is Power Program, is a national network of free, open- enrollment, college preparatory public schools dedicated to preparing students in underserved communities for success in college and life.

KIPP is now serving nearly 60,000 students in 162 schools across the country

Work hard. Be nice.

KIPP's character development work is grounded in research

KIPP is focused on 7 highly predictive character strengths

"Children have never been very good at listening to their elders, but they have never failed to imitate them."

40,000 COLLEGE-AGE

OR OLDER ALUMNI

