

Opportunities for Equitable Outcomes:

Empowering ALL
Students by
Strengthening Executive
Function

Presented by Sucheta Kamath
February 25, 2021



Infinite know how
for school

Let's Say Hello...

- An award-winning speech-language pathologist, a TEDx speaker, and an entrepreneur whose patented software curriculum ExQ® is innovating personalized learning in the EdTech space.
- Sucheta is a sought-after educational thought leader and a nationally recognized expert on Executive Function and EF training in children and adults.
- As a host of the podcast Full PreFrontal®: Exposing the Mysteries of Executive Function, Sucheta has interviewed more than 140 neuroscientists, researchers, educational leaders, journalists and industry experts on the topic of learning how to learn.



Today's Agenda

1. **Challenges in equity in learning and teaching** that the ongoing pandemic has unveiled or exacerbated
1. **Understand about the impact of teaching** Executive Function and how it contributes to equity in education
1. **Review the research showing how training students with Executive Function skills helps ALL students** gain independence and improve outcomes
1. **Explore 4 principles for teaching** Executive Function with equity



America is not a place where chance of birth or circumstance should decide our destiny. And that is why we need to build new ladders of opportunity into the middle class for all who are willing to climb them.

— President Barack Obama, February 12, 2013

Diversity, Inclusion & Equity:

Are they the same?

DIVERSITY



INCLUSION



EQUITY



Thought Experiment

DIVERSITY

INCLUSION

EQUITY

Take a minute to define these words. Write buzzwords, bulleted definitions, whatever comes to mind.

- General Assembly Blog

Outcome Vs. Approach

DIVERSITY

The presence of difference within a given setting

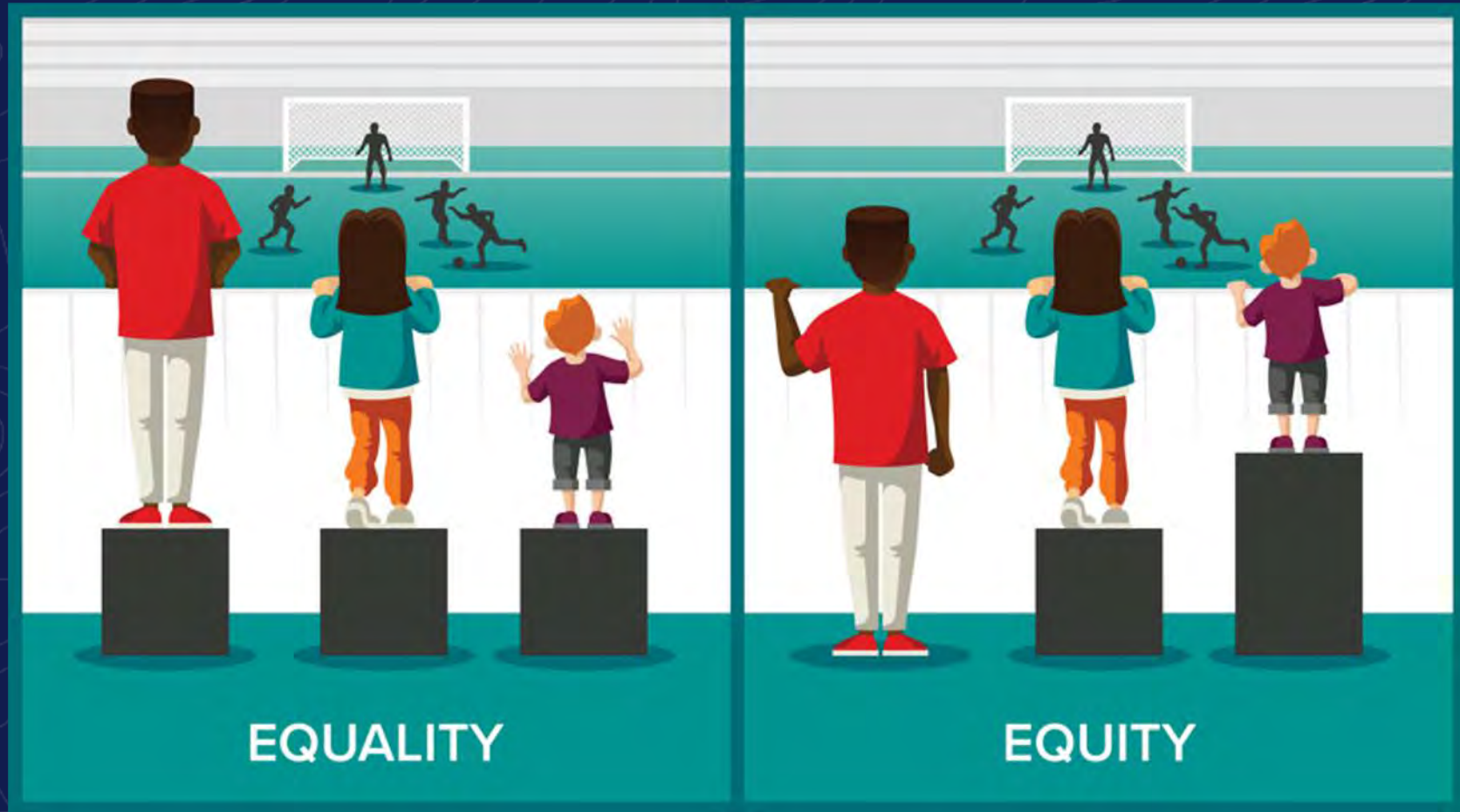
INCLUSION

Welcoming, valuing, leveraging individuals with different identities within a given setting

EQUITY

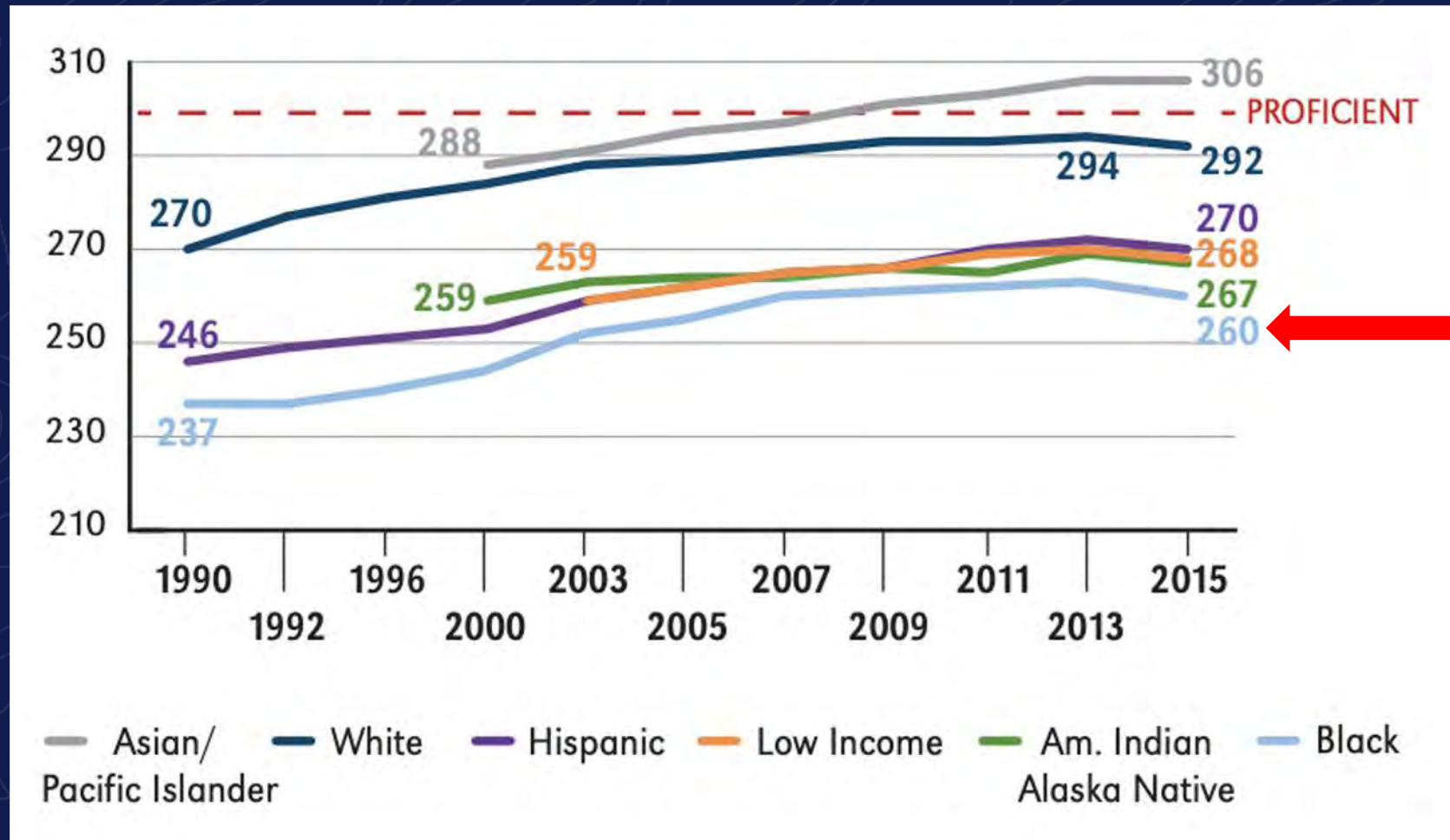
A process or an approach that ensures everyone has access to the same opportunities

Does Our Current Educational Approach Consistently Prioritize for Equitable Outcomes?



Achievement gaps between student groups have narrowed slightly but still remain wide

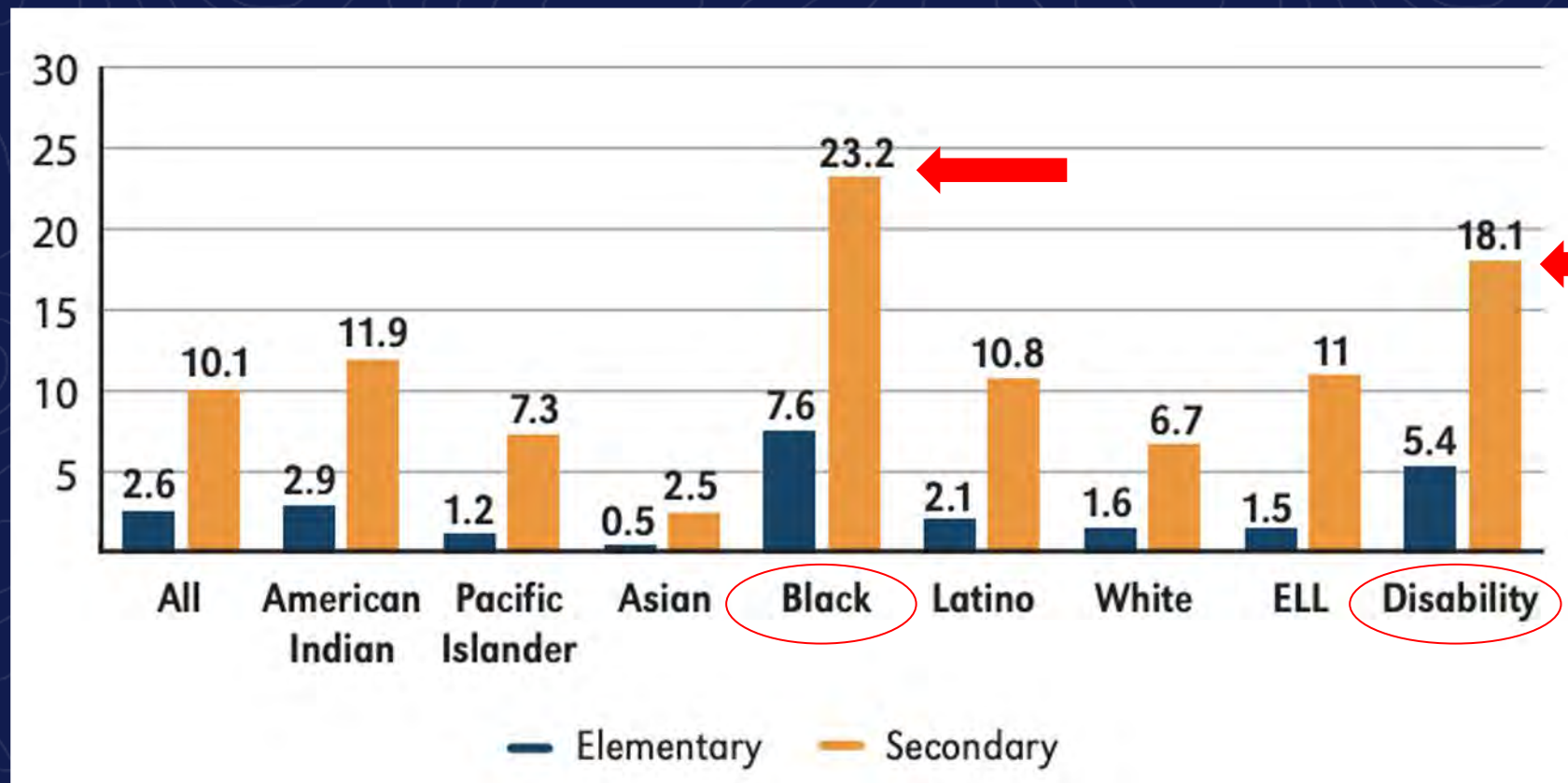
Grade 8 Math, 1990 –2015 by Race, Ethnicity & Family Income



Source: NCES 2015

Suspension rates by student group shows gaps (2011-12)

Percentage of Students Receiving Out-of-School Suspensions



SOURCE: the Civil Rights Project, 2015

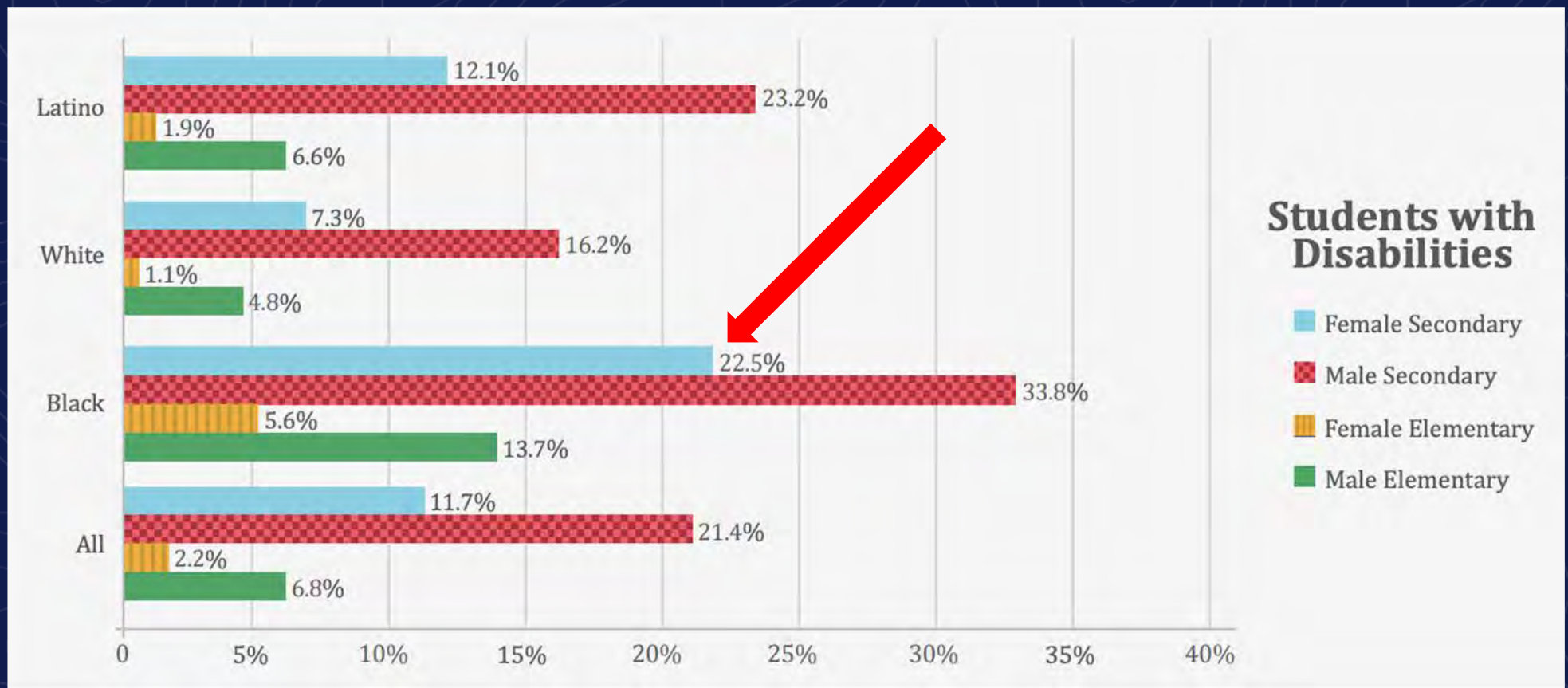
Black students are disproportionately represented in out-of-school suspensions for first referrals

	Percent referred for disciplinary action	Percent of these whose 1st referral was for a code of conduct violation	Percent of 1st referrals resulting in out-of-school suspension
Black	75.1	94.2	26.2
White	64.8	92.7	18.0
Hispanic	46.9	93.3	9.9

SOURCE: Fabelo et al, Breaking Schools' Rules, The Council of State Governments/ Public Policy Research Institute, July 2011

Suspension Rates for Students with Disabilities, Further Disaggregated by Race/Ethnicity and Gender

Black females with disabilities are suspended at higher rates (22.5%) than White males with disabilities at both the elementary and secondary level



Source: "Are we closing the school discipline gap?" -The Civil Rights Project (2015)

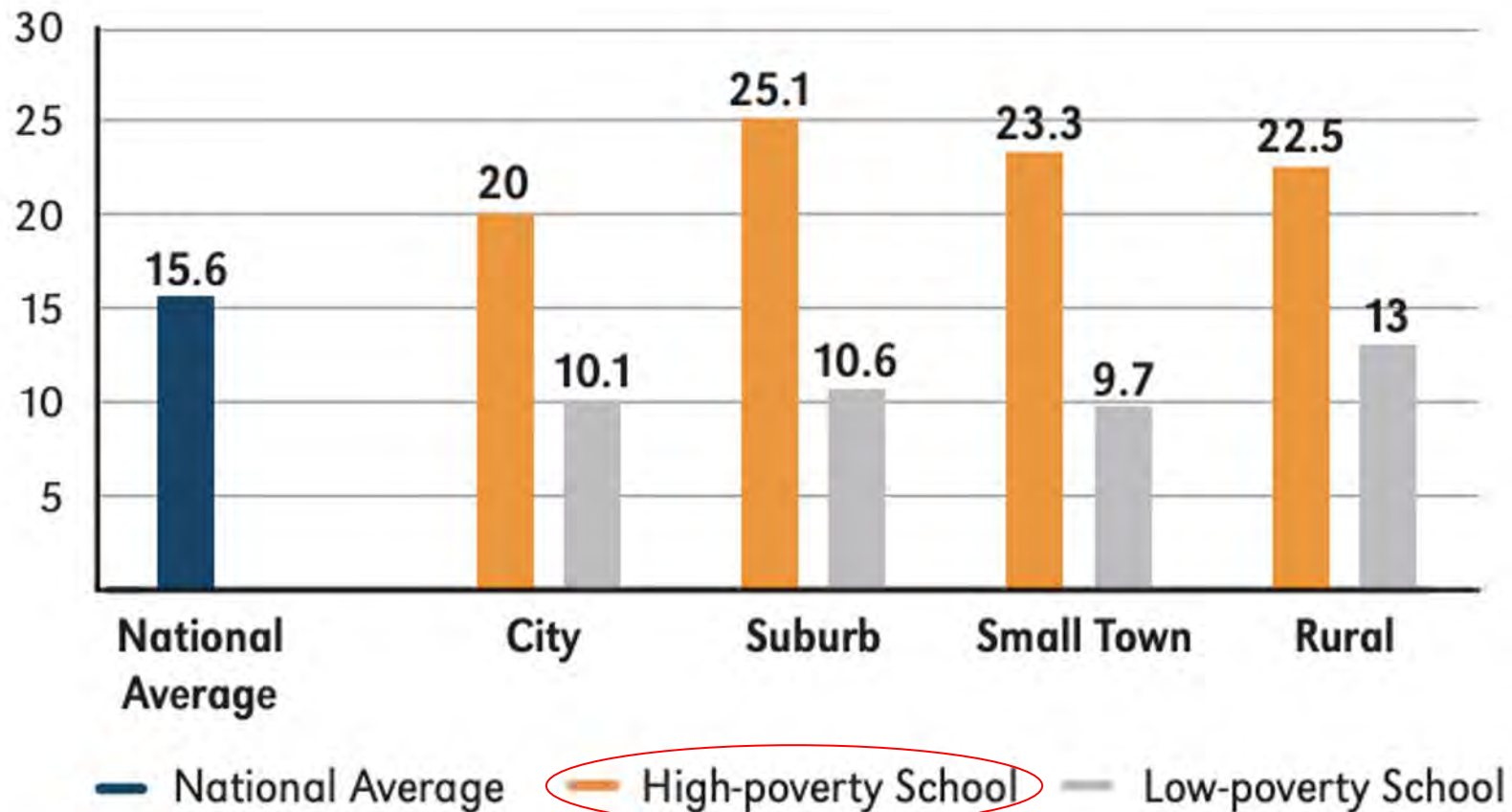


According to a 2015 Report, the main engines of the observed differences in suspension rates are school policies, practices, and leadership, rather than differences in student behavior

Source: "Are we closing the school discipline gap?"
-The Civil Rights Project (2015)

High-poverty high schools are most likely to have classes taught by teachers out of their field

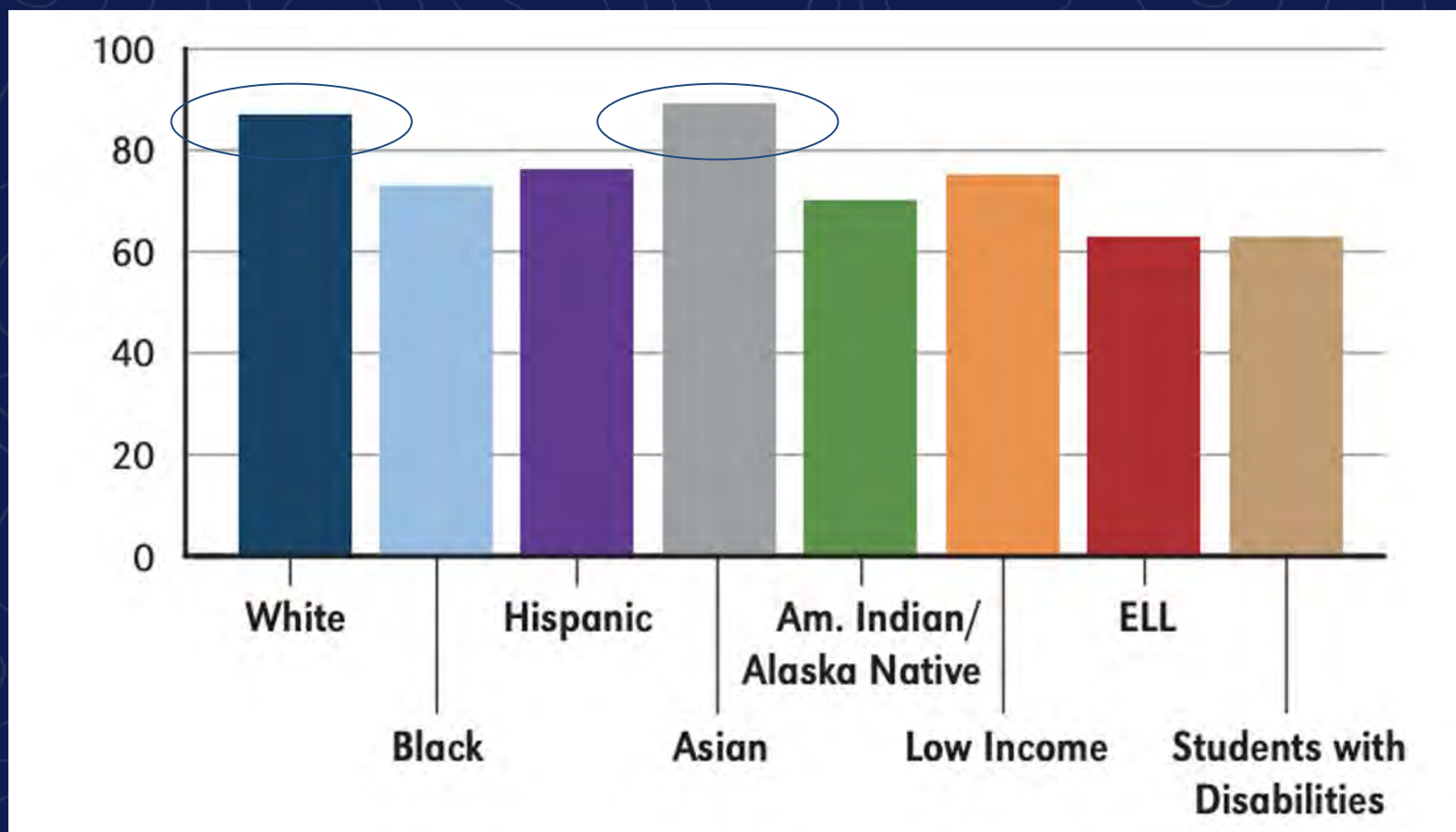
% of Classes Taught by Teachers Lacking Certification or Major in Subject



Source: Education Trust, 2010. 2007-08 data

All time high graduation rates still show gaps

On-Time Graduation Rates from Public Schools 2013-14



Source: NCES 2014

Deep Structural Disparities

Public school education & the opportunity gaps

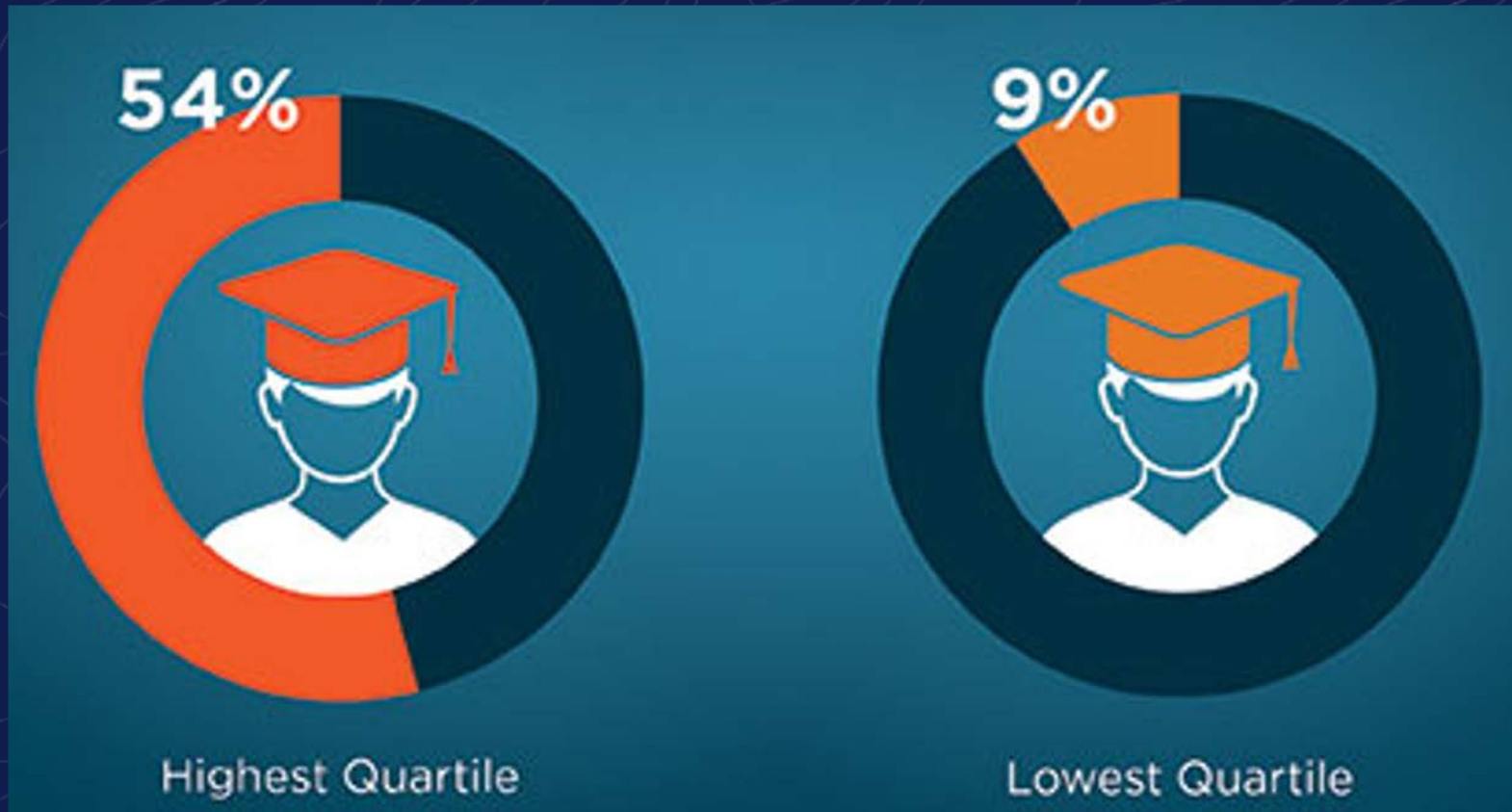


"Social science research has consistently shown that public school students with higher-income parents are likelier to attain higher levels of education than their lower-income peers."

— Pedro Noguera, Ph.D. The Dean of the University of Southern California's Rossier School of Education (MSNBC)

College Completion Gap

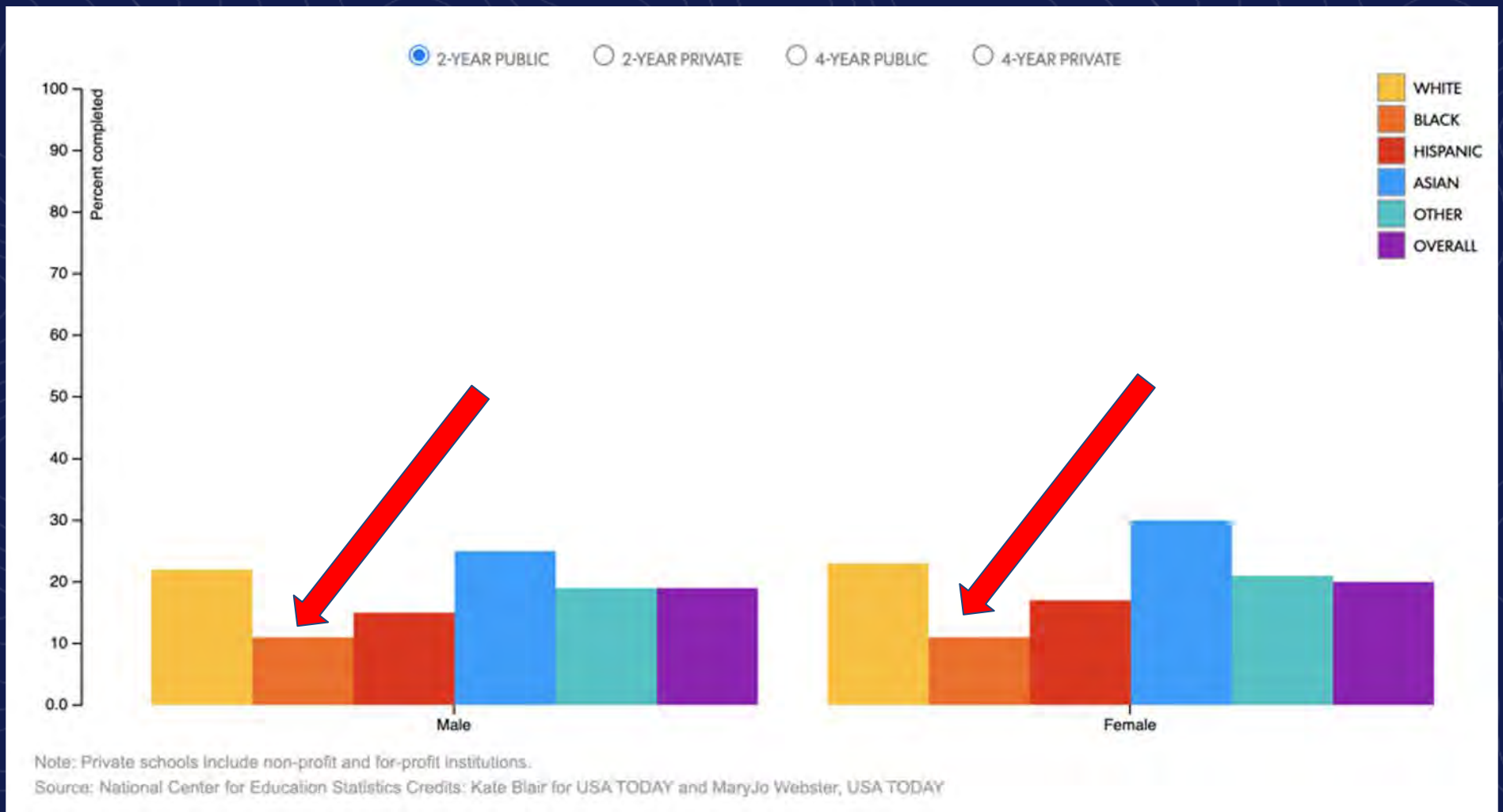
Most students from the highest-income quartile complete college, while only 9% from lowest-income quartile earn a college degree



DOE (A Great Education Helps to Create Ladders of Opportunity for All Students)

College Completion Rates

Less than 35% at 2-yr community college finish their certificate within 150% of the expected time



Special Ed Struggles During COVID-19:

District response to the survey questions

82%

harder to provide hands-on accommodations and instructions

73%

harder to provide instructional accommodations

57%

hard to engage families for help with IEP requirements

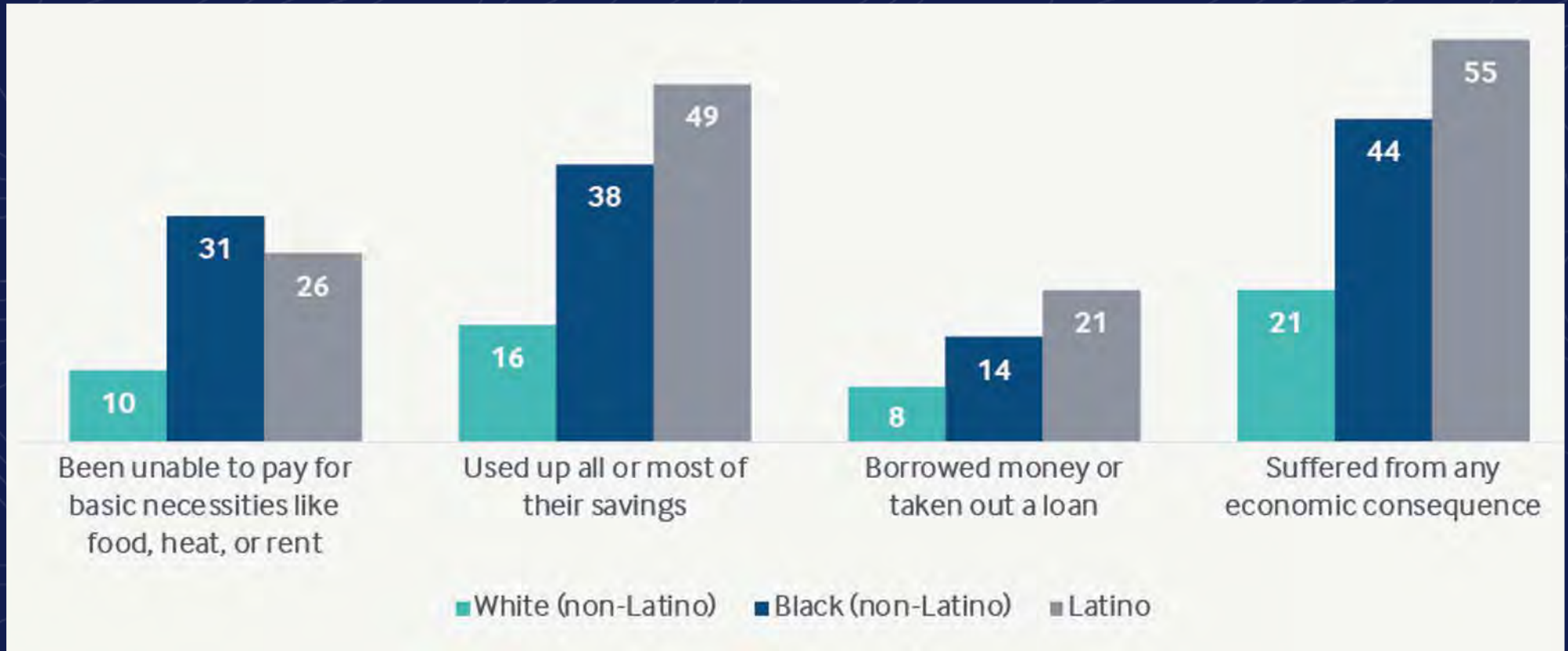
*American Institute for research (2020): National survey of Public Education
Response to COVID-19: Spotlight on students with disabilities*

Analysis showed that

- School districts found it more or substantially more difficult to provide services required by IDEA in the context of remote instruction
- Responses were similar across low-poverty, rural as well as urban districts suggesting that there's a grace need to support districts and schools in educating students with disabilities is widespread.

Equity Beyond the School Walls

2020 Pandemic Survey: Black and Latino Americans Face Greater Mental Health & Economic Challenges from COVID-19 Than White Americans



The 2020 Commonwealth International Health Policy COVID-19 Supplement Survey

Deep Structural Disparities

The pandemic has affected people of color disproportionately more



“Persistent wealth gaps, inadequate access to health care, poor living conditions, and unsafe work environments are just a few of the root causes for why this pandemic has affected people of color disproportionately. Of course, getting the pandemic under control is critical, but we also have to dismantle the racist policies and practices that have led us here.”

— David Blumenthal, M.D., Commonwealth Fund President



America's Struggle With Equity (1):

A 2011 Department of Education study showed that 45% of high-poverty schools received less state and local funding than was typical for other schools in their district.

Comparability of State and Local Expenditures Among Schools Within Districts: A Report From the Study of School-Level Expenditures (2011)



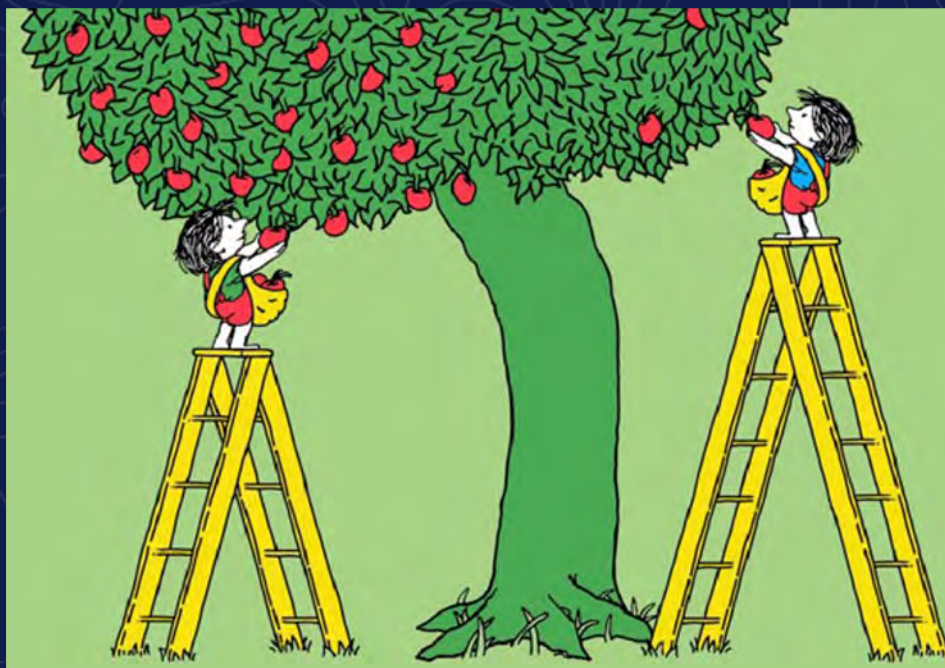
America's Struggle With Equity (2):

A 2019 Ed Builder report showed that the majority-white districts receive \$23 Billion more than majority non-white districts

Ed Build Report (2019)
<https://edbuild.org/content/23-billion>

We Haven't Prioritized Equity (Enough)

Because, if we did, we would have taken the time to understand poverty and its impact on the developing brain, made a greater commitment to changing policies, doubled-down on our financial investments, and moved away from punitive actions



Achievement Gap is more like an Opportunity Gap

CONCLUSION:

"The route to achieving equity will not be accomplished through treating everyone equally. It will be achieved by treating everyone justly according to their circumstances."

Paula Dressel, Race Matters Institute





The U.S. Department of
Education has identified,
“Students taking responsibility
for their
own learning”
as one of the vital conditions
for Student, Teacher and
School Success!

Public Education and Learner Success:

Successful K-12 educational experiences aspire to produce highly Self-Directed, Self-Aware & Engaged Learners



Skills Gained vs. Skills Trained

How do students take responsibility for their own learning?



Executive Function

is a set of skills essential to appropriately adjust one's thoughts, emotions and actions in accordance with changing environments and challenging times to achieve personal goals!



Executive Function includes skills such as:

- Impulse control
- Long-term planning
- Remembering to remember
- Gratification postponement
- Simulation of the Future
- Critical reasoning & collaborative decision-making
- Emotional & social regulation
- Adaptive flexibility
- Seeing the Big-Picture



Advanced EF Skills

Manage multifaceted priorities, weigh options, adapt & shift - all to serve the needs of the long-term, future-self

Intermediate EF Skills

Manage time, tasks, projects, & goals to produce results. Problem-solve, communicate & advocate

Foundational EF Skills

Manage effort & engagement, control impulses & emotions. Initiate & take actions

The Iceberg of Competence

EF Skills (Cognitive & Emotional) that enable desirable behaviors are mostly beneath the surface



Behaviors and (in)actions are visible and tangible but the underlying skills and abilities (or a lack thereof) are not

Failure of Self-Control

Failure to Cooperate

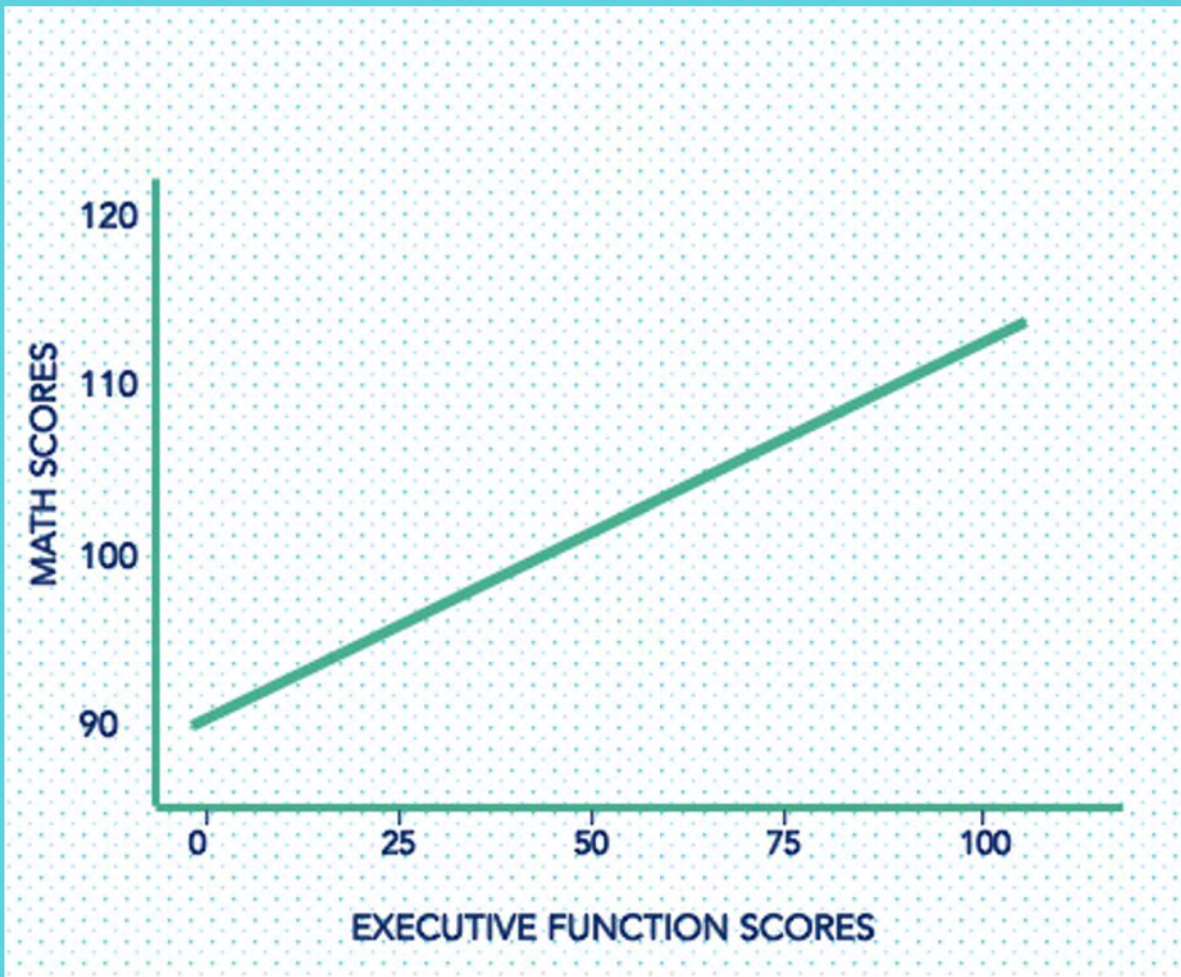
Failure to Care

Code of Conduct

Failure to meet expectations

- Fail to demonstrate respect for self and others
- Fail to demonstrate courtesy to others
- Fail to behave in a responsible manner
- Fail to attend class regularly
- Fail to be prepared for class
- Fail to take the course of study seriously
- Fail to dress appropriately
- Fail to cooperate with school officials
- Fail to respect others' property
- Fail to avoid violation of student code of conduct

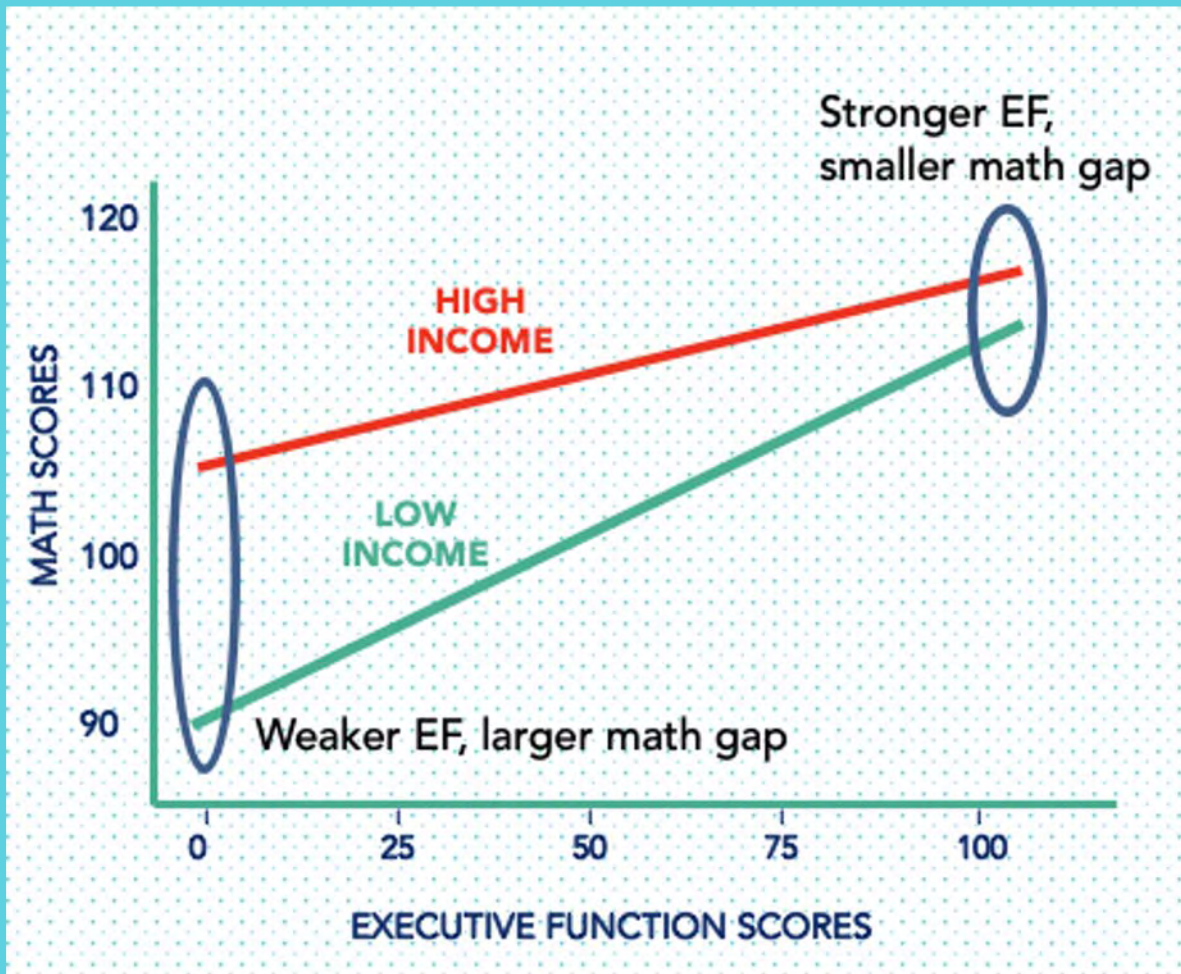
What's the relevance between math and Executive Function?



Students with strong Executive Functions tend to score higher in math

Data from National Center for Education Statistics Early Childhood Longitudinal Program, 4th grade, N=7,615 students

SES, EF, and the Math Gap



Data from National Center for Education Statistics Early Childhood Longitudinal Program, 4th grade, N=7,615 students

Takeaways:

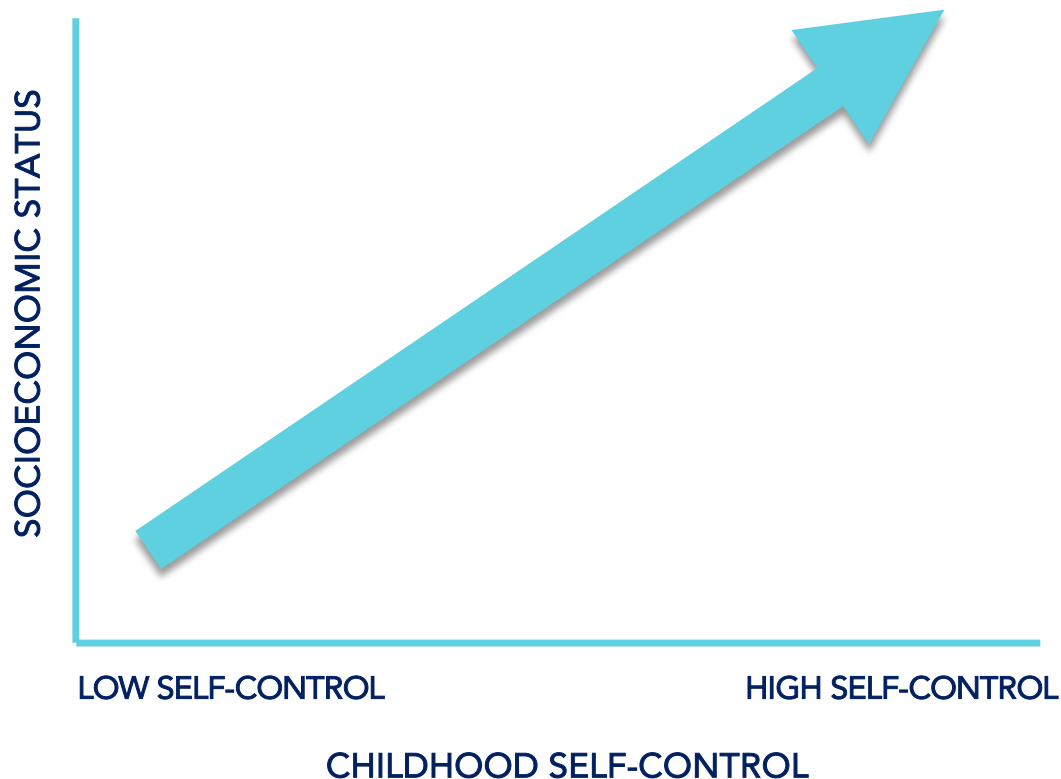
- The Math Gap is very small if we compare students with strong EF
- Stronger EF may help overcome challenges of learning in under-resourced schools
- Strengthening EF may have stronger benefits for low-income students (*the Steep Slope)

Highly-developed Executive Function skills
are foundational to the management of learning



Lifelong Impact of Executive Function

Socioeconomic Status & Self-Control



30 years later...

- Better jobs
- Higher incomes
- Improved health
- Stronger relationships
- Fewer run-ins with the law

Study by Terrie Moffitt et al. (2011)
Proceedings of the National Academy of Science



Working towards equity in schools involves:

- Acknowledging that our systems, practices and narratives are designed to perpetuate disparities in outcomes
- Deliberately identifying barriers that predict success or failures and actively disrupt them
- Constantly examining personal identities, bias, and both personal and collective contributions to the creation and reproduction of inequitable practices
- (Re)allocating resources (tools, time, money, people, support) to ensure every child gets what they need to thrive socially, emotionally and intellectually
- Cultivating the gifts, talents, and interests that every person possesses

- Hane Safir & Jamila Dugan. Book: Street Data: A next generation model of equity, pedagogy, and school transformation (Corwin 2021)



4 Key Curriculum Principles That Foster Executive Function For Equitable Outcomes:

- Principle #1: Teach developmentally appropriate self-regulation skills by scaffolding 3 levels of Executive Function
- Principle #2: Differentiate learning based on individualized EF assessment to create learning *how to learn* goals for ALL students
- Principle #3: Teach personal problem-solving through task analysis, saliency determination, and deliberate practice for personal agency, productivity, and future success
- Principle #4: Build a curriculum that empowers students to master work-habits, growth mindsets, and internal speech that promotes self-sufficiency, engage in video/written journaling to accentuate soft-skills, and strategically self-advocate during school experiences that can be adapted to life

Self-Directed & Highly-Engaged Learners And their Strong Executive Function are...



- Skills & not gifts
- Slow to emerge
- Developed at varied rates
- Lagged & can be disruptive
- Not ubiquitous, and neither is teaching them
- Taught by specialized methodology

Mounting evidence shows that teaching
Executive Function & cognitive skills leads
to positive student outcomes,
in learning and in life.

Summary of Research Outcomes:

Proven benefits of integrating Executive Function & Social-Emotional training into academics

- Improved classroom climate and instructional support
- Improved college and career readiness
- Higher graduation rates
- Prevention of bullying and low-level aggression
- Reduction in teacher stress
- Reduced exclusionary discipline and discipline disparities
- Improved social performance, job outcomes, and higher education attainment

Source: Learning Policy Institute Report (2017) Melnick, H., Cook-Harvey, C. M., & Darling-Hammond, L. (2017). Encouraging social and emotional learning in the context of new accountability. Palo Alto, CA

Example of EF Training Tool : ExQ®



ExQ is a patented & 100% digital platform designed to directly deliver curriculum to grades 6-12 by individualizing learning to build a mastery of Executive Function through games, error analysis, and metacognitive lessons based on the reflection science and the principles of self-devised strategic thinking

Teaching EF For Equitable Outcomes: Principle #1



A curriculum that teaches self-regulation in the context of an integrated framework that scaffolds 3 levels of Executive Function in accordance with the developing brain.

Principle #1: ExQ®'s Integrated Framework Scaffolds Student Success at 3 Levels

Advanced
Executive
Function Skills

Self-
Awareness

Strategic
Thinking

Metacognition

Intermediate
Executive
Function Skills



Organization
& Planning



Problem
Solving



Prospective
Memory

Foundational
Executive
Function Skills



Focus



Working
Memory



Mental
Flexibility

Teaching EF For Equitable Outcomes:

Principle #2



A curriculum that automatically differentiates teaching and learning based on an individualized EF assessment that helps create goals to learn *how* to learn for ALL students

Principle #2: ExQ[®]'s highly-specialized assessment creates a personalized profile and goals for learning



**Persist Towards
School & Life Goals**



**Prioritize and Plan
for Better Results**



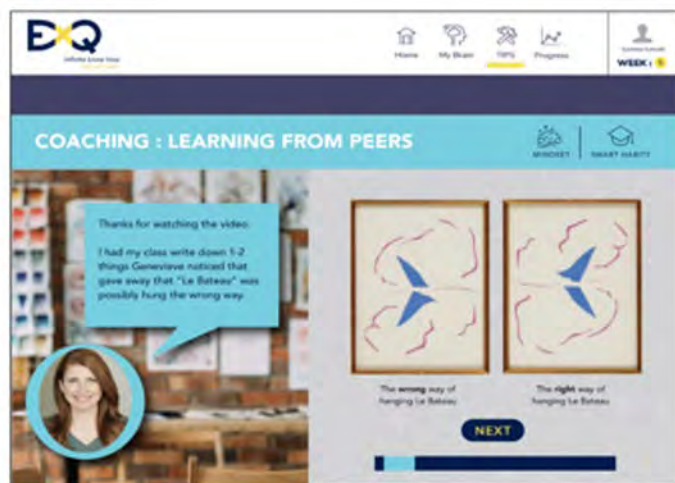
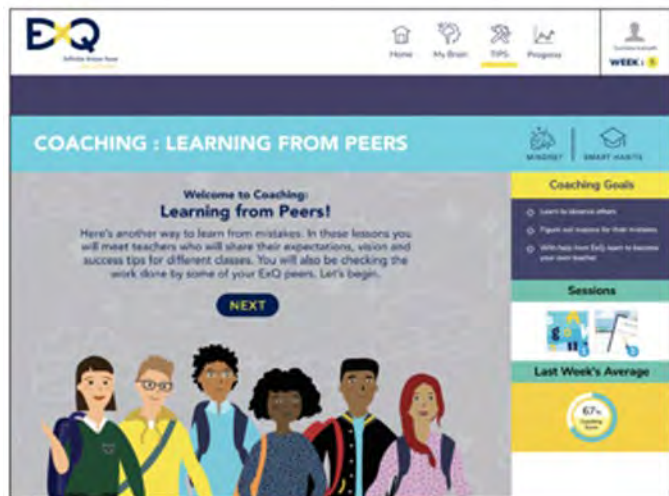
**Foster Growth of
the Future-Self**

Teaching EF For Equitable Outcomes:

Principle #3



A curriculum that systematically teaches personal problem-solving through task analysis, saliency determination, and deliberate practice in order to adapt work-habits for personal agency, productivity and the success of the future-self



Principle #3: ExQ® integrates personal problem-solving through task analysis, saliency determination, and deliberate practice

Intense and highly dynamic practice with gradually scaffolded intensity

Revisit and analyze expectations as well as mistakes through coaching (with a virtual coach) and peer mentoring

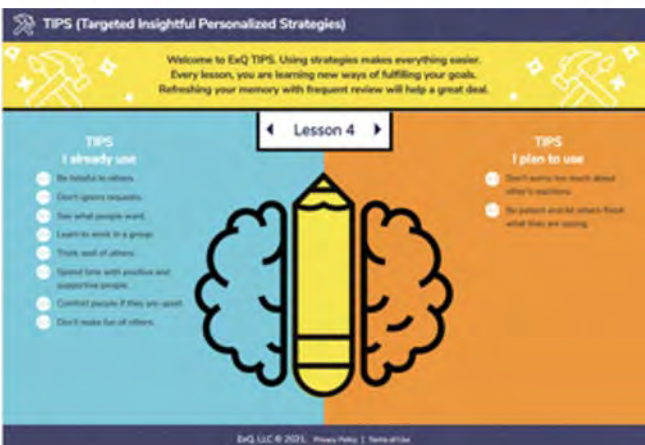
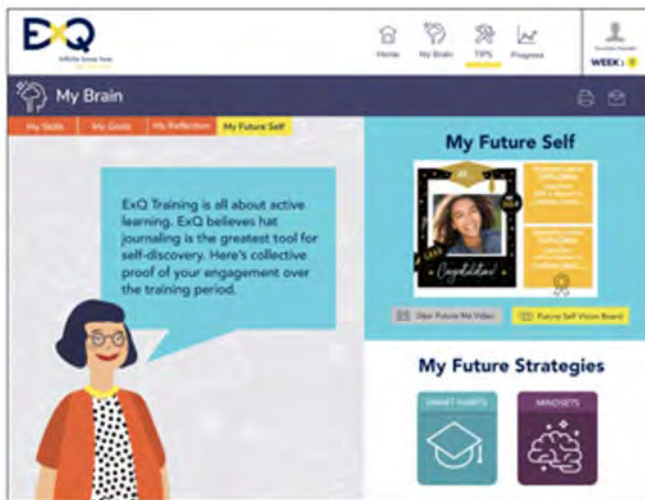
Opportunity to reflect via written and video journaling as students fine-tune their work habits.

Teaching EF For Equitable Outcomes:

Principle #4



Build a curriculum that empowers students to master work-habits, growth mindsets and strategizing processes to promote self-sufficiency, engage in video/written journaling to accentuate soft-skills and strategically self-advocate during school experiences that can be adapted to life.



Principle #4: ExQ® helps students identify and cultivate work-habits, growth mindsets, and self-advocacy strategies to promote self-sufficiency

ExQ offers personalized strategies for each student; chosen BY them FOR them.

ExQ prepares students to connect Smart Habits and Mindsets within the ExQ learning experience with transferable school and work habits.

Equity is an Approach:

If the approach interlinks Curriculum with Technology to innovate Learner preparedness, the experience can be:

- Inclusive
- Fun & engaging
- Individualized
- Highly flexible & adaptive
- Wider-reaching
- Demonstrative of global trends of the balance between student strengths and challenges





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