Utah's Experience with Digital Teaching & Learning

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Texas Virtual Education Commission
Austin, Texas

April 27, 2022

Utah Senator for 26 years

- Notable Legislation:
  - Digital Teaching & Learning
  - Dual Language Immersion
  - School Property Tax Equalization
  - Charter Schools

Co-Chaired:

Education Committee – National Conference of State Legislatures (NCSL)

Education Task Force – American Legislative Exchange Council (ALEC)

The White House

President Obama signing ESSA – December 2016

‘The Christmas Miracle’

Volunteered as Counselors for Two Years at Salt Lake Valley Youth Detention Center

RUSSWIN

Some of our kids need

School Breakfast

Some of our kids need

Extended-day Kindergarten

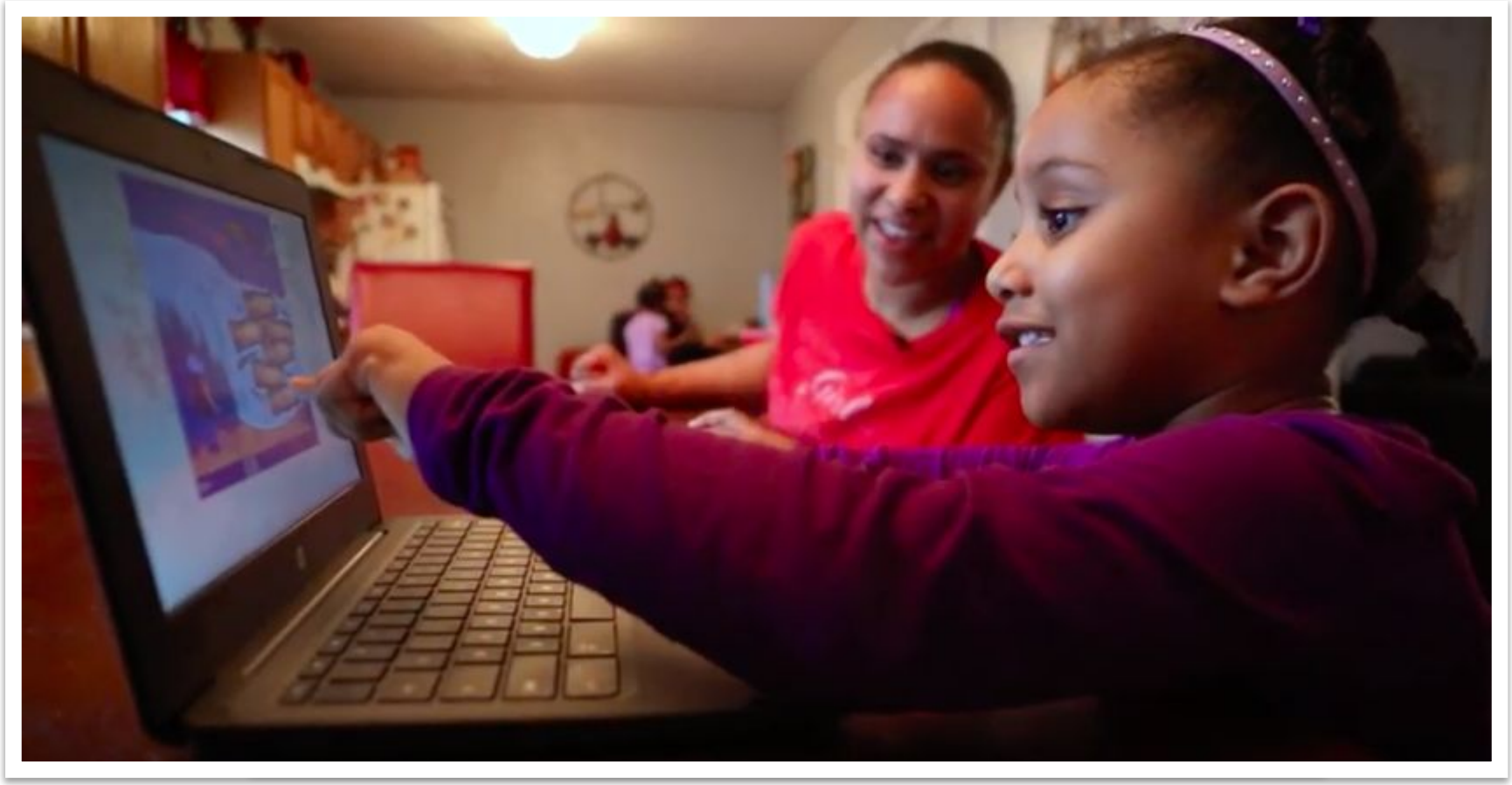
Some of our kids need

After School Programs

Some of our kids need -

Elementary School Psychologists

Some of our kids need



Early Childhood Learning

2 Years Turned into 5 Years … Now, I want to help policymakers avoid my mistakes

- Policymakers want to do good, to make a difference
- Sometimes good intentions when done in ignorance do immense, irreparable harm

School Breakfast
Extended-day Kindergarten
After School Programs
Elementary School Psychologists
Early Childhood Learning

True fiscal conservatives know that paying for these now … saves $$ later!

Utah Education Strategic Plan 1992

30 Member ‘Blue Ribbon’ Panel worked for 2 years

Entire Plan Enacted into Law by Utah Legislature

The Plan included massive increases in K-12 funding

“Utah will have the best educated citizenry in the world.”

Two Members of the Strategic Planning Commission were Elected on the 1992 Ballot to Implement the Plan:

Governor Mike Leavitt

Senator Howard Stephenson

“Utah will have the best educated citizenry in the world.”

UEN Provides Statewide Connectivity, Training and Contracts for Distance Learning

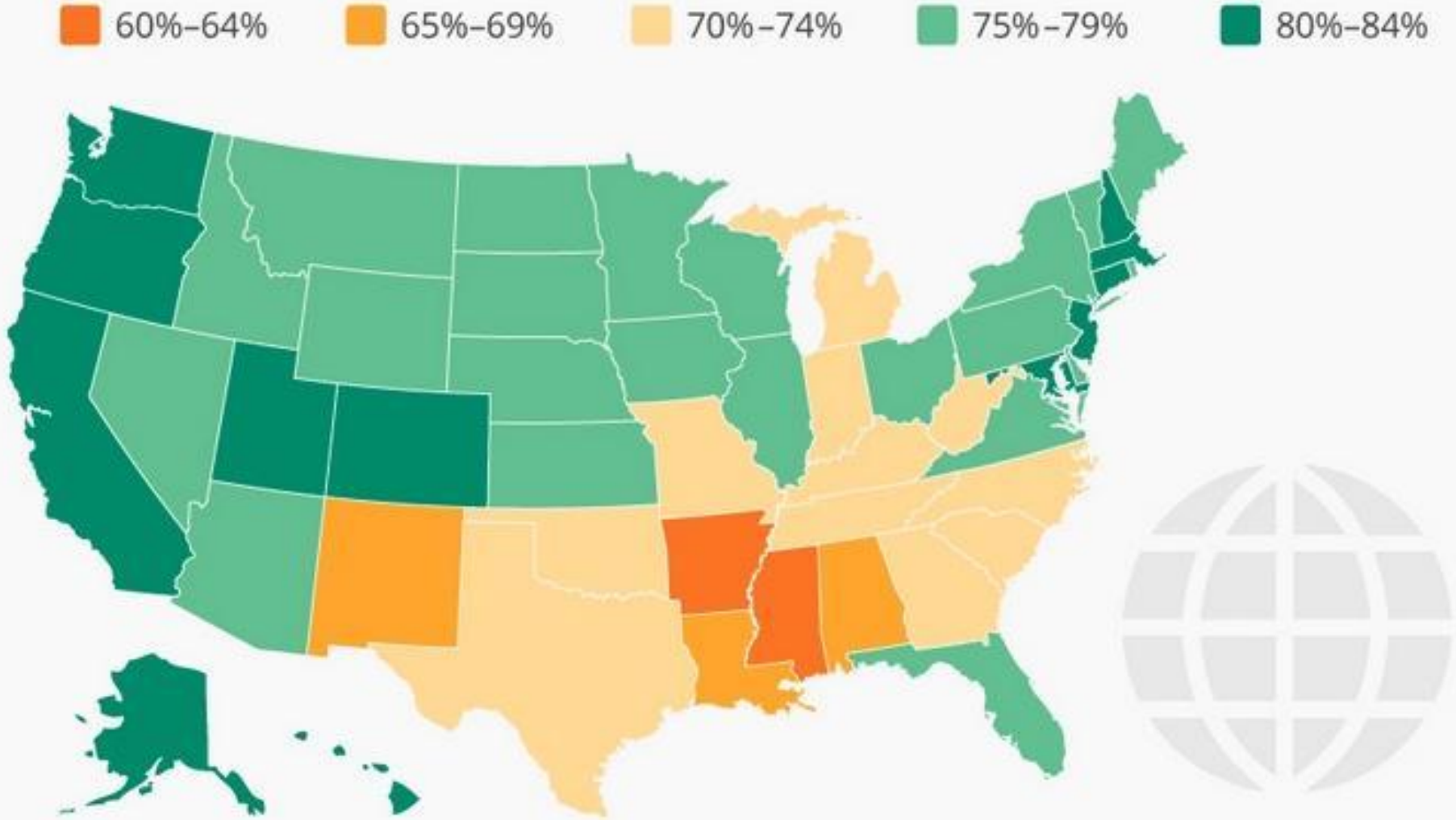
By the Year 2000 Every Utah Public School was Connected to Fiber – Coordinating Access to E-Rate Funds

Future Ready Schools® Frameworks

UTAH EDUCATION NETWORK

U.S. Home Broadband Penetration by State

Share of U.S. homes with a broadband internet connection, by state



@StatistaCharts

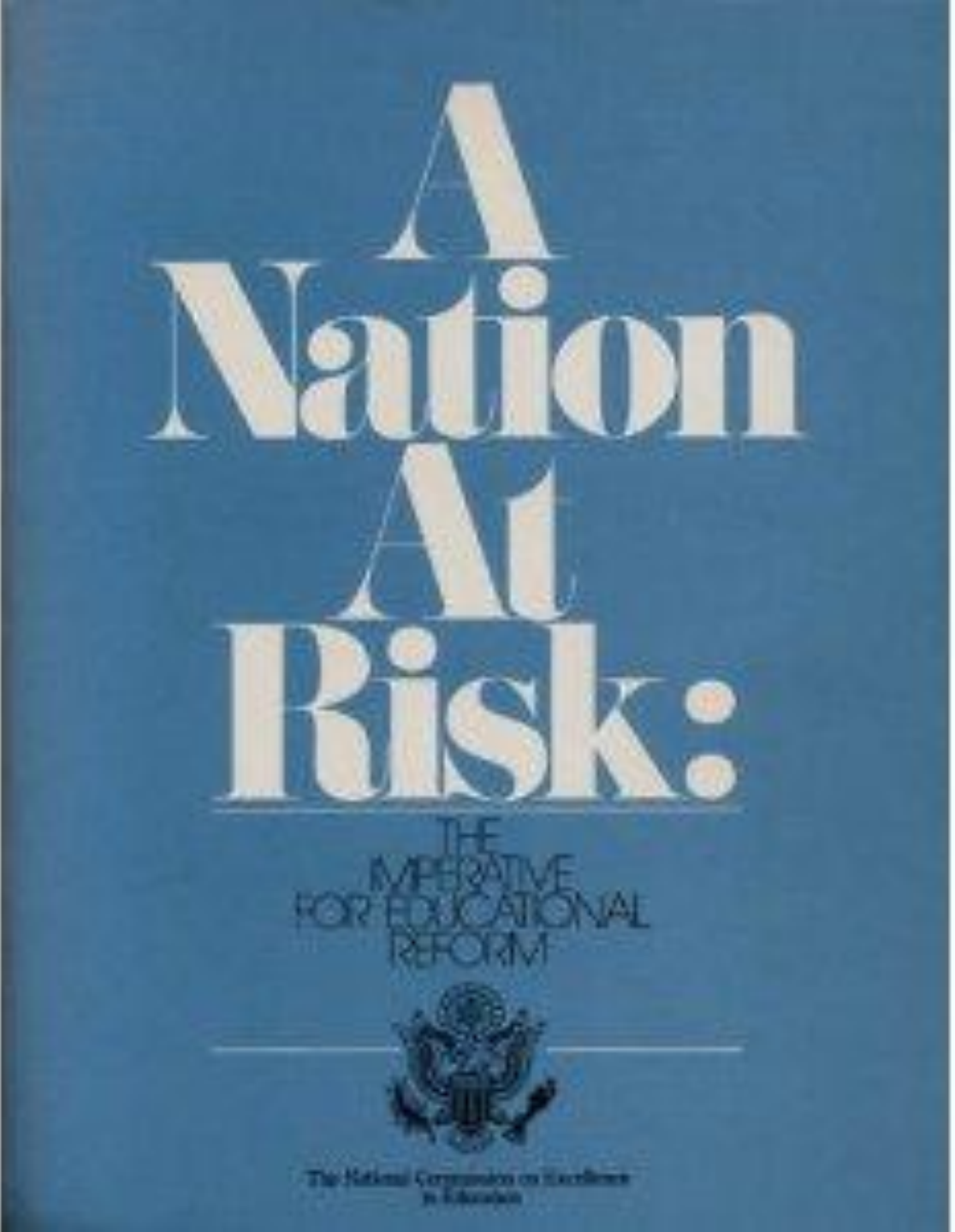
Latest figures as of February 27, 2017

Source: Center for Data Innovation

statista

SALT LAKE 2002

XIX
OLYMPIC
WINTER
GAMES

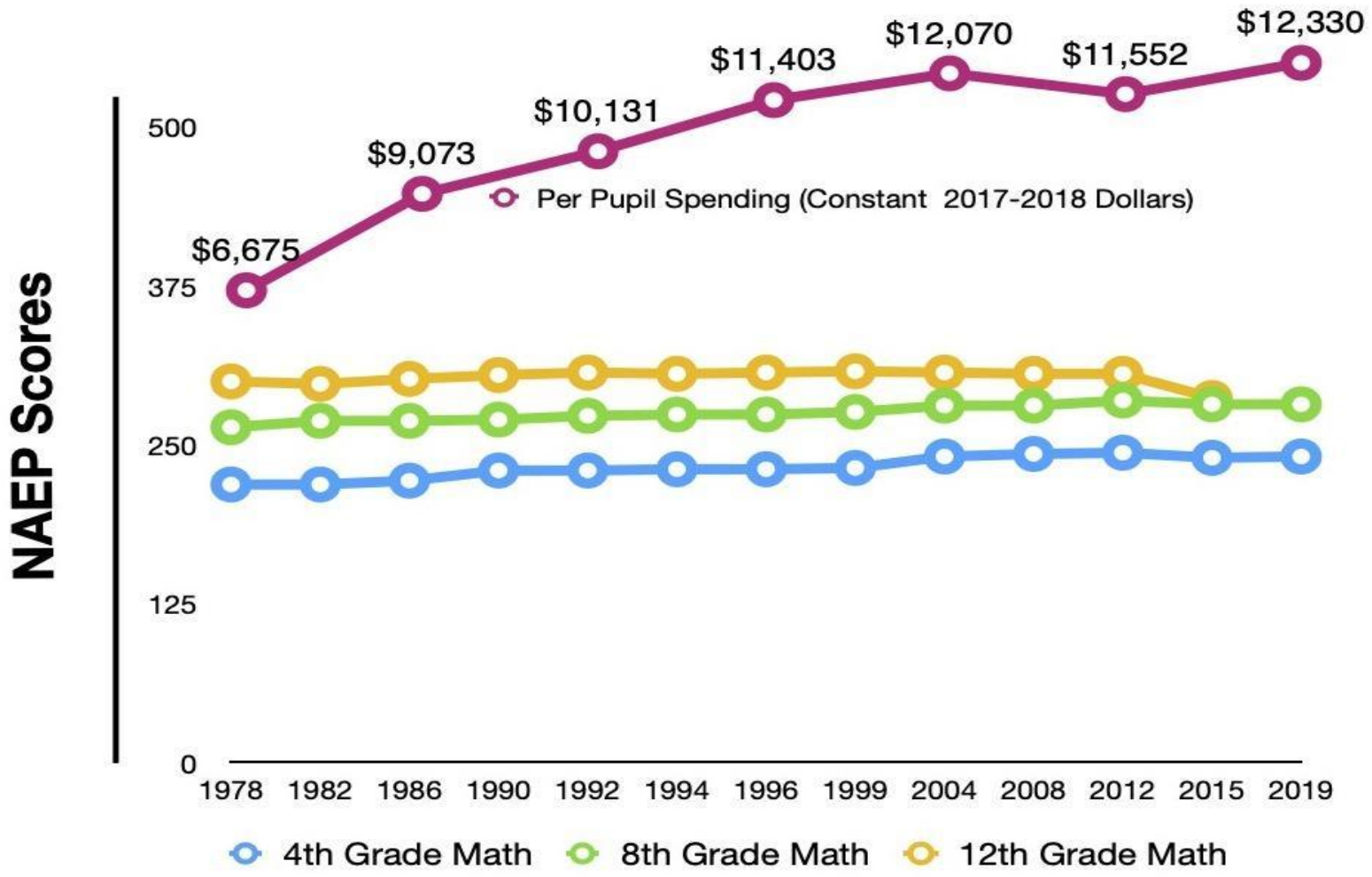


"If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war."

A Nation At Risk (-83)

PURGAMENTUM INIT, EXIT PURGAMENTUM

40 Yrs - Doubled Spending Per Pupil in Real Dollars
Student NAEP Scores Remain Flat



The Promises of the 1992 Strategic Plan were not Realized

Governor Leavitt tapped Fraser Bullock to bring Employers and Educators together to find out why the Plan and increased funding had not achieved the promised results and what changes were needed.

K-12 Education is like a School Bus with 12 Steering Wheels

How do you get those in control of each steering wheel working together?

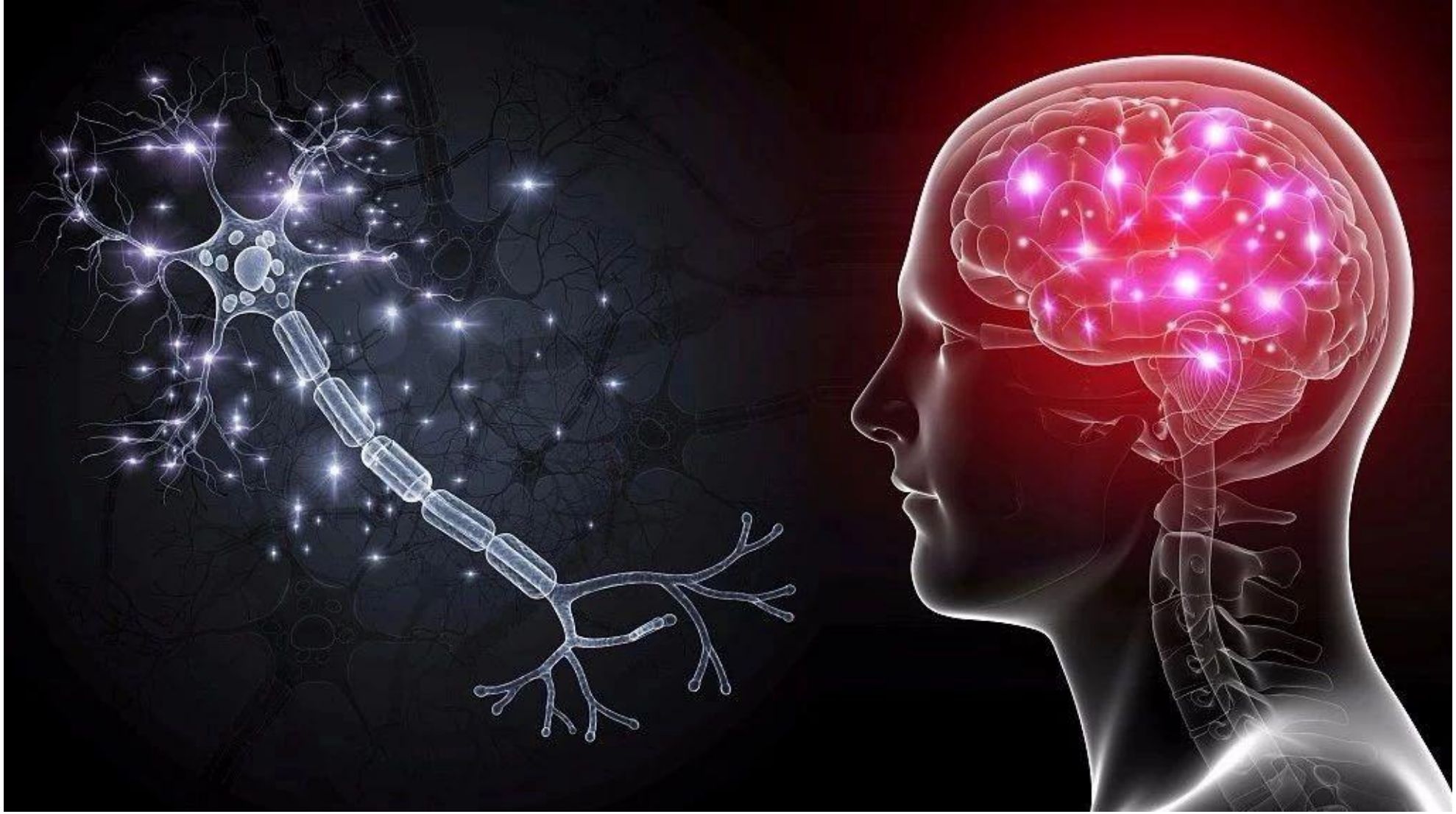
Annual PreK-16 Summits

- State School Board, Board of Regents, Pre-K, Legislative Leadership and Ed Committees, Governor, Superintendents, Teacher Union
- Breaking down silos, building relationships
- Learning about evidence-based solutions at the same time and place

Serve and Return:
Center on the Developing Child at Harvard University

Mission: To drive science-based innovation that achieves breakthrough outcomes for children facing adversity.

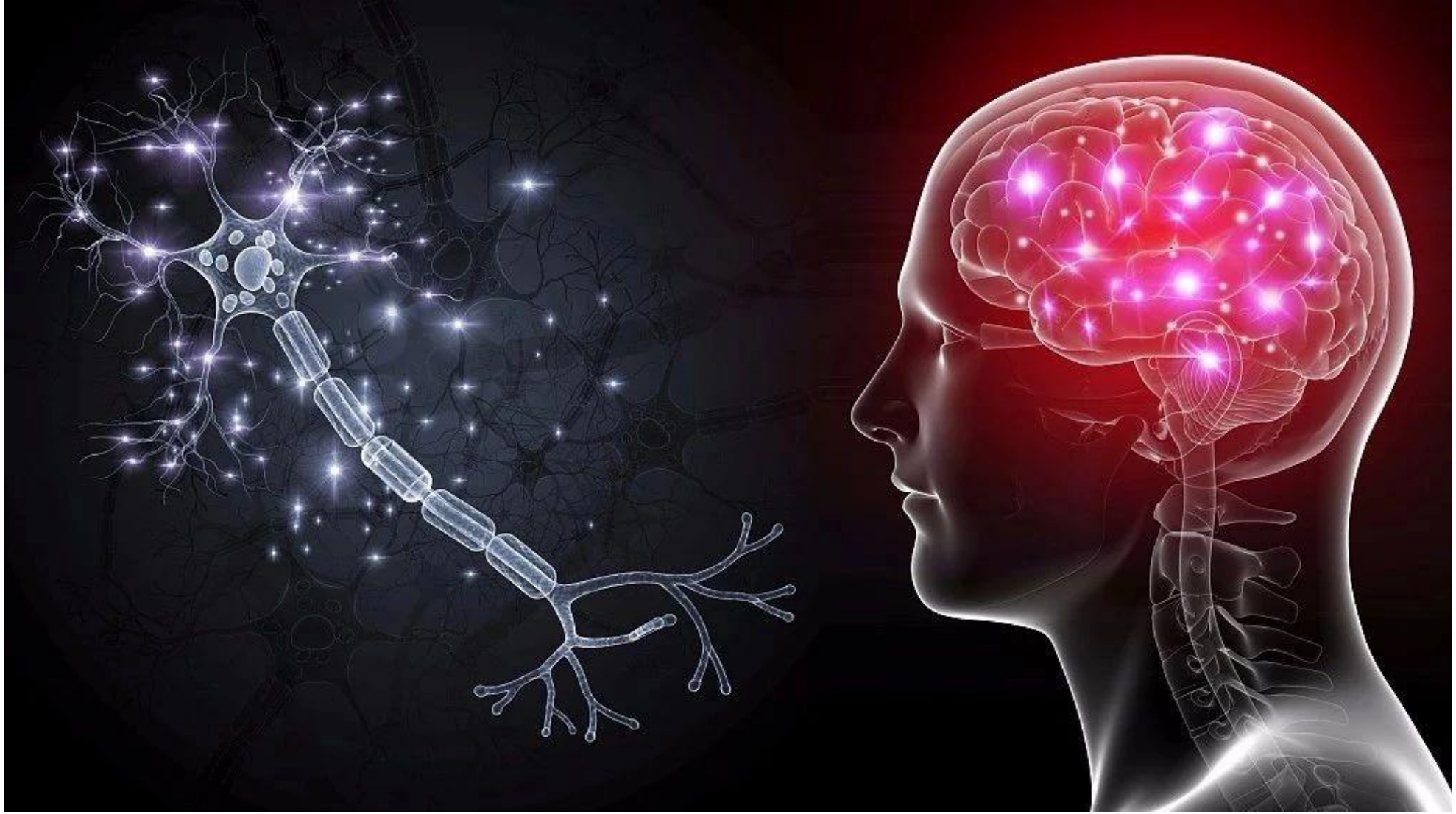
Brain Research Conference
Martha Burns PhD



Human brain has 100 billion cells connected 10 trillion ways

Our Search for Happiness

Our Search for **Dopamine**



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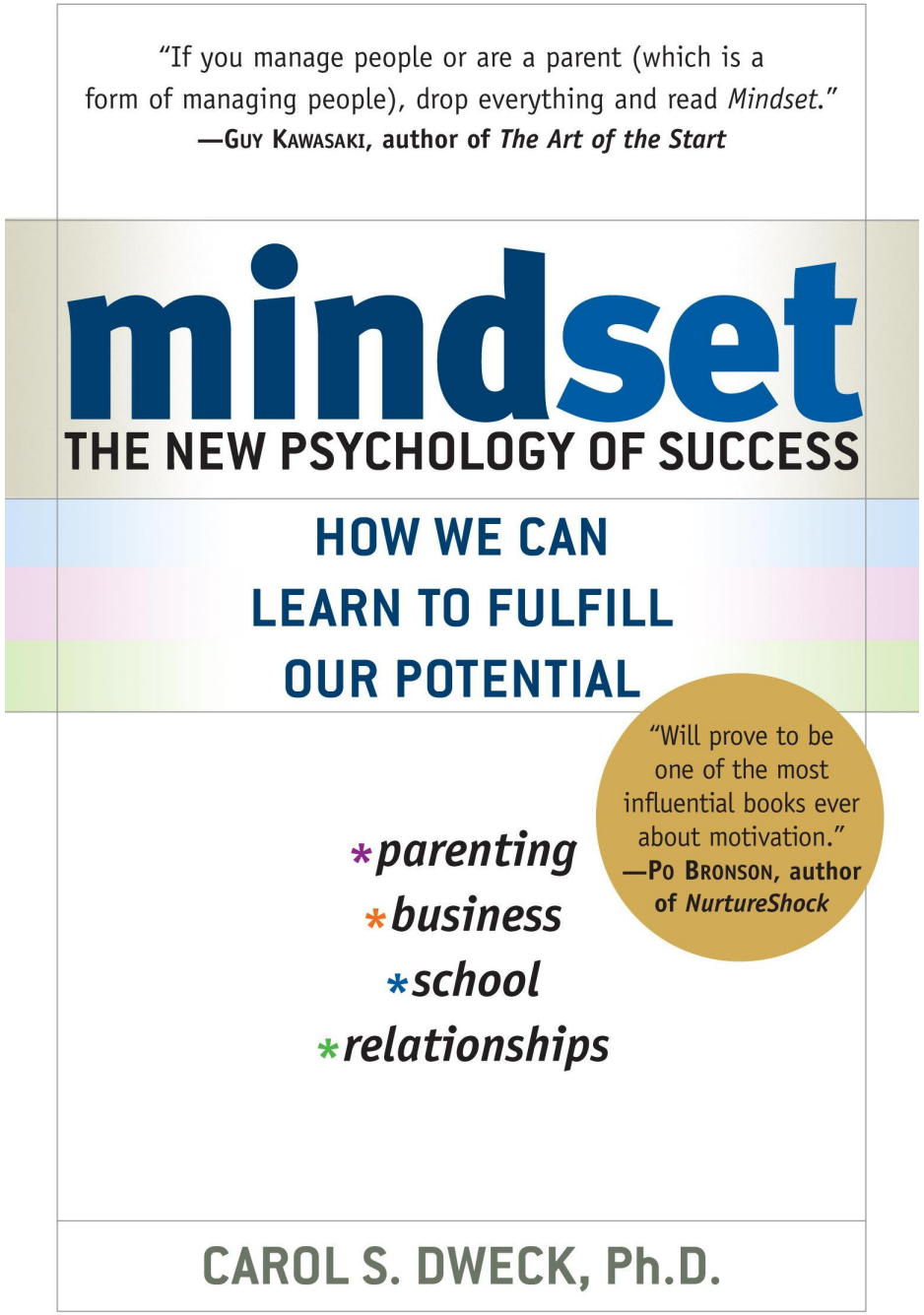
Our Search for Success

Our Search for Serotonin

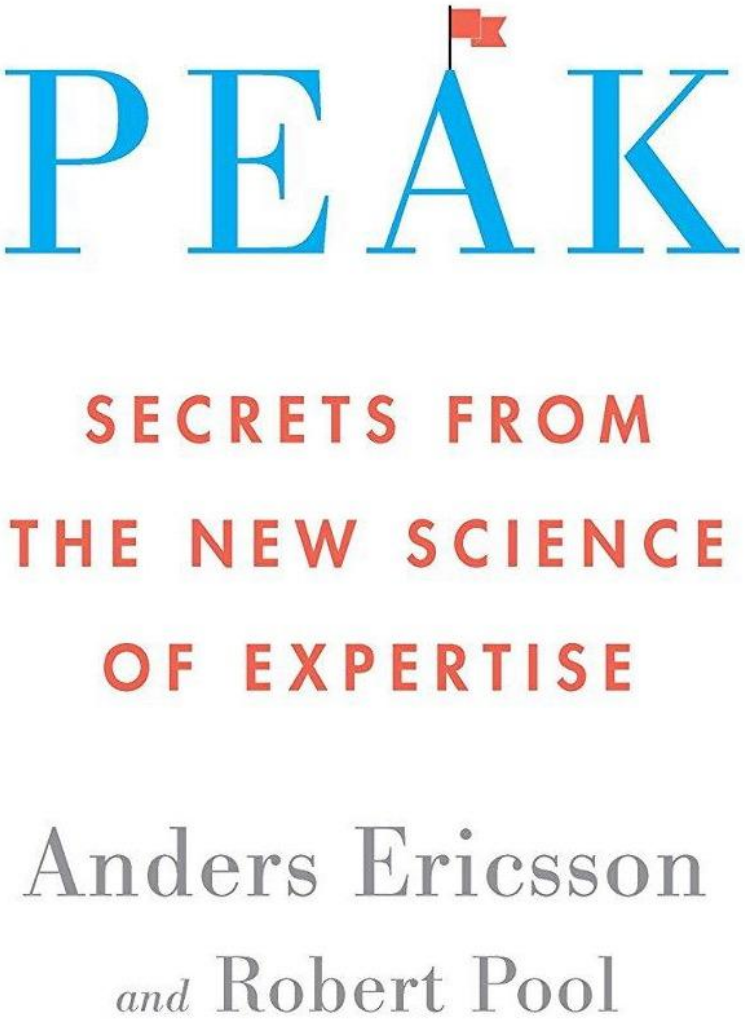


Carol Dweck's "growth mindset" — the idea that we can grow our brain's capacity to learn and to solve problems.

Are you not smart enough to solve it … or have you just not solved it yet?

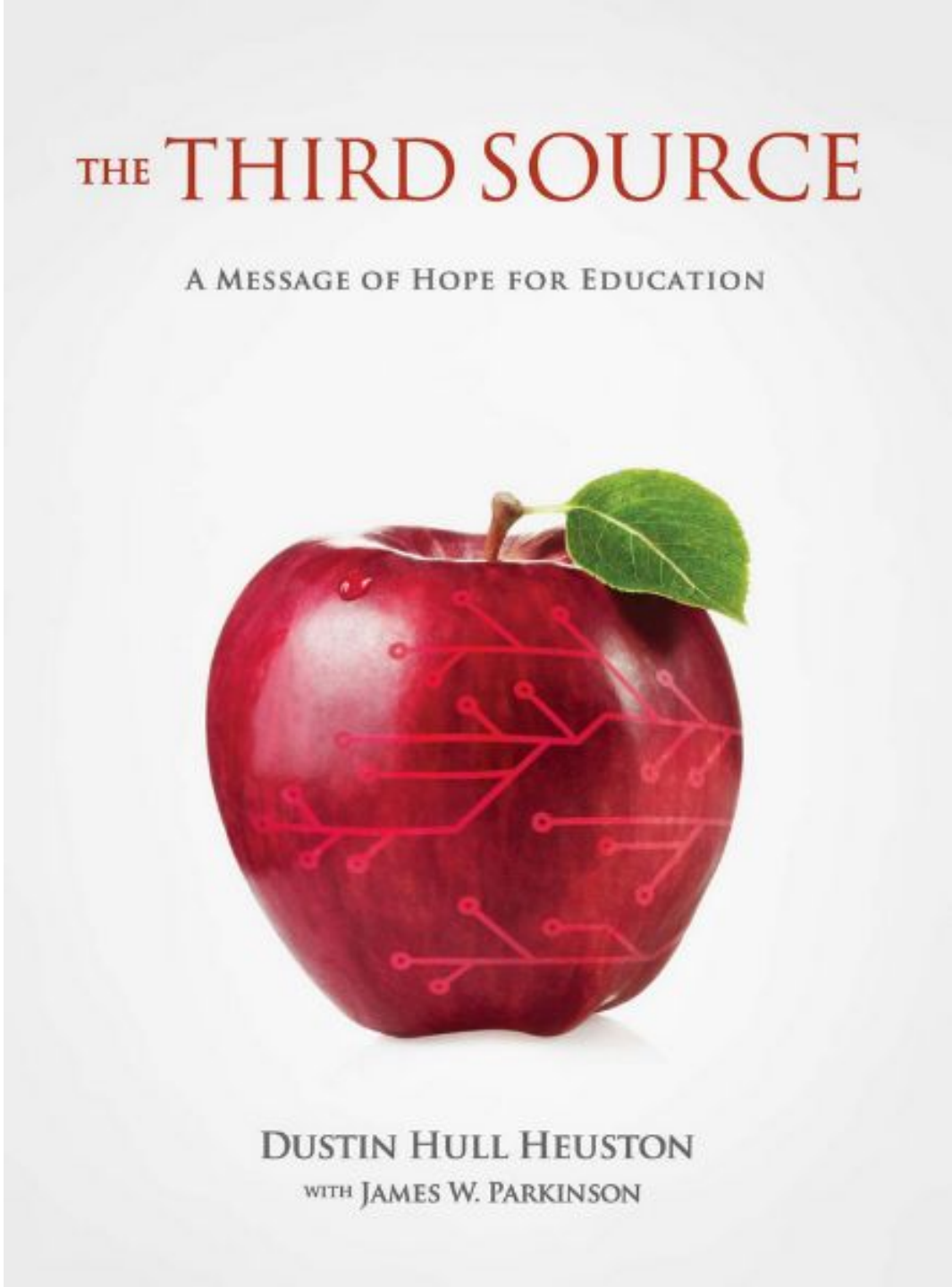
EVERYONE can achieve expertise through **deliberate practice**.

Immediate,
Interactive,
Adaptive
Feedback



It is impossible to address each child's unique needs using the standard system of one teacher for every 20 to 30 students

Computer technology enables a teacher to provide over 20 times as much individual instruction to each student.

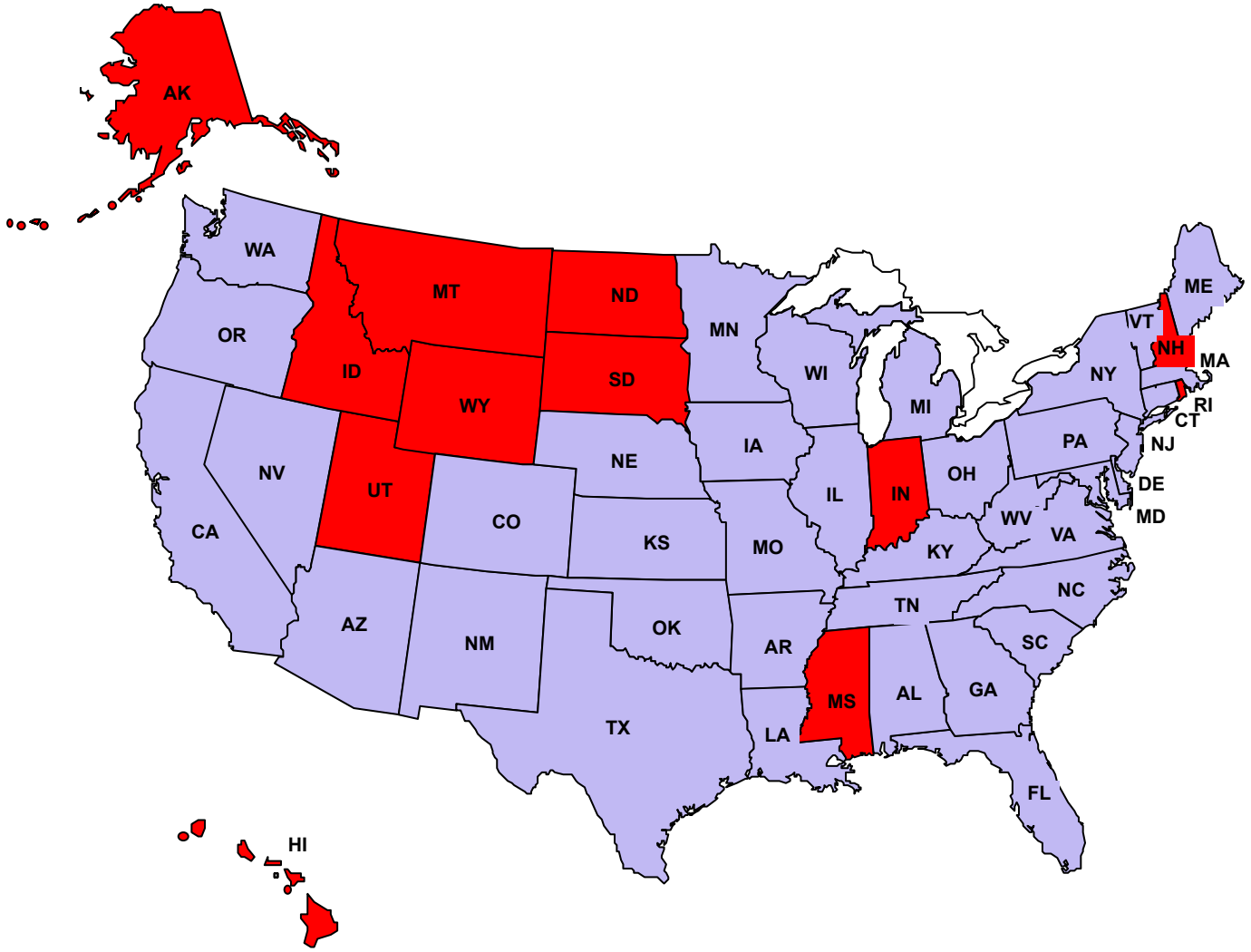


English Language Software for EL Students

- 2005 Legislation provided software for every English Learner
- Provides 30 mins of Personalized Language Instruction Daily
- English Classroom Proficiency Achieved in 1 to 1.5 years instead of 4 to 6 years

Pre-K Conference

- Big Sky Montana June 2006
- 11 States without state funded Pre-K
- Each state team developed its own plan



Heckman: Children at risk who don't receive quality early childhood education are:

- 25% more likely to drop out of school
- 40% more likely to become a teen parent
- 50% more likely to be placed in special education
- 60% more likely to never attend college
- 70% more likely to be arrested for a violent crime

30 Million Word Gap

Hart, B. & Risley, T.R. “The Early Catastrophe:The 30 Million Word Gap”

- 30 million word gap difference in socio-economic conditions of childhood in first four years of life
- Children in poverty hear fewer than a third of words of higher-income families
- Low-income children often negative directives
- Higher-income children hear many more words of praise
- **Conversational Turn-Taking** is even more important than the number of words heard

Pew Trust Plan

UTAH :

- Took a family-centered approach

Pew Trust Plan

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- **Took a family-centered approach**
- **2008 Legislation for computer-based in-home kindergarten readiness**

Pew Trust Plan

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Pew Trust Plan

UTAH :

- Took a family-centered approach
- 2008 Legislation for computer-based in-home kindergarten readiness
- Legislation required child and parent efficacy training
- Waterford won the RFP Contract

Utah UPSTART Program

Required highest focus on serving twice as many –

- **Low income**
- **Minority**
- **Special Ed**
- **English Learners**

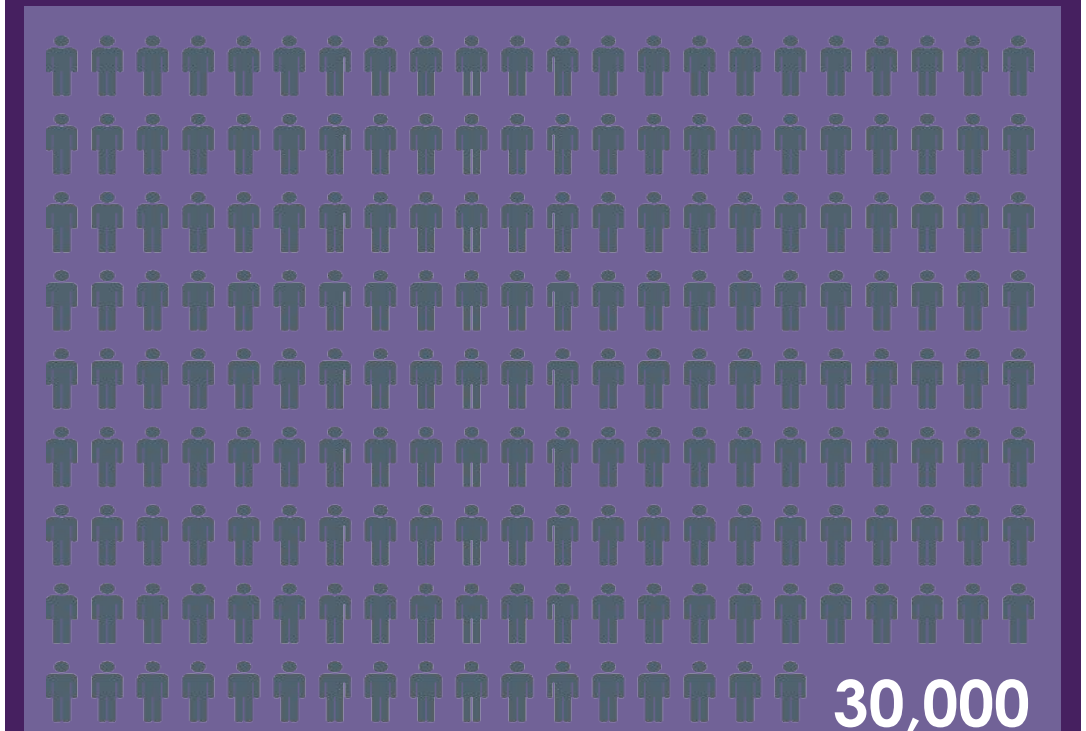
Waterford UPSTART
at home kindergarten readiness

- Provides adaptive reading software for 4 year olds
- 15 minutes/5 days per week
- Assigns weekly one-on-one coaching to assist and support
- Supplies a computer and provides internet access

UPSTART serves 2/3 of all 4-year-olds and their families in Utah

UTAH 2020-21:

Waterford UPSTART at home kindergarten readiness

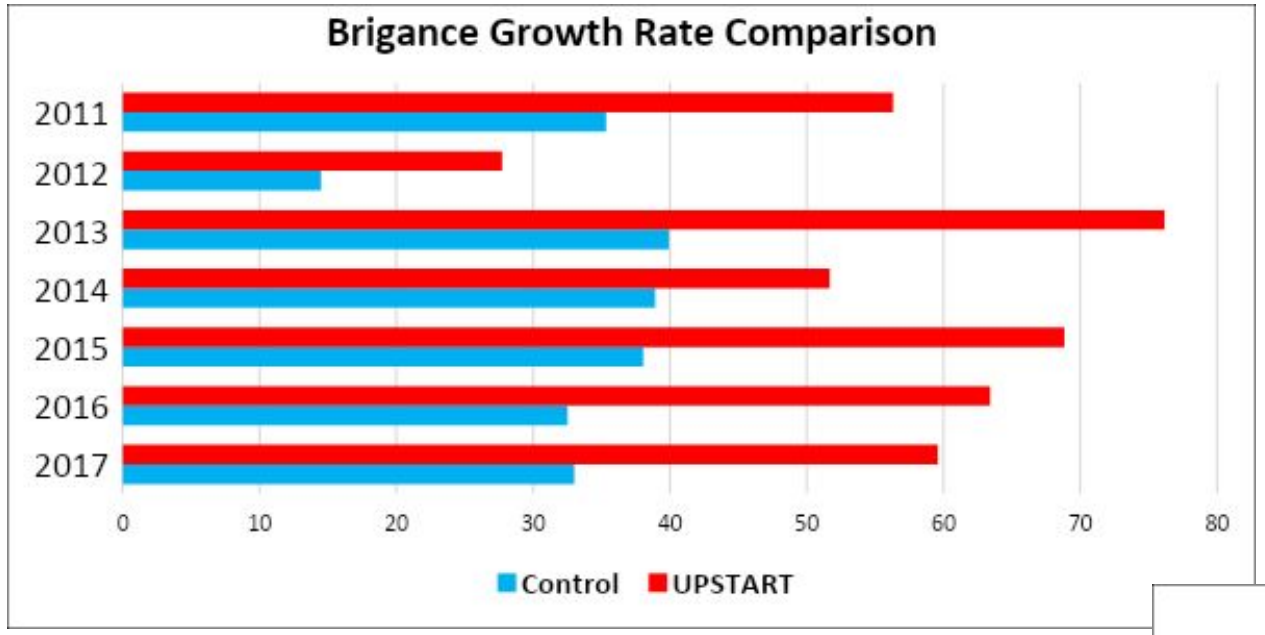


UPSTART – External Evaluations

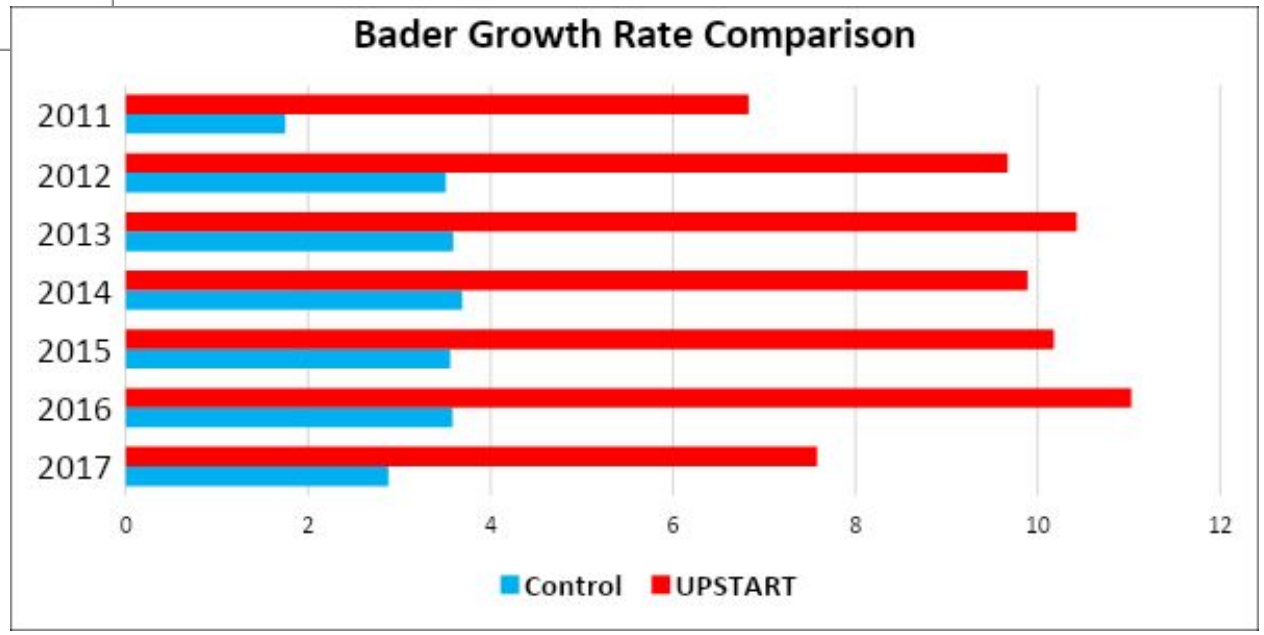
The Evaluation and Training Institute

The state of Utah has used a 3rd party evaluation to study how children who use UPSTART perform compared to children who did not have the opportunity to participate in the program.

UPSTART – External Evaluations

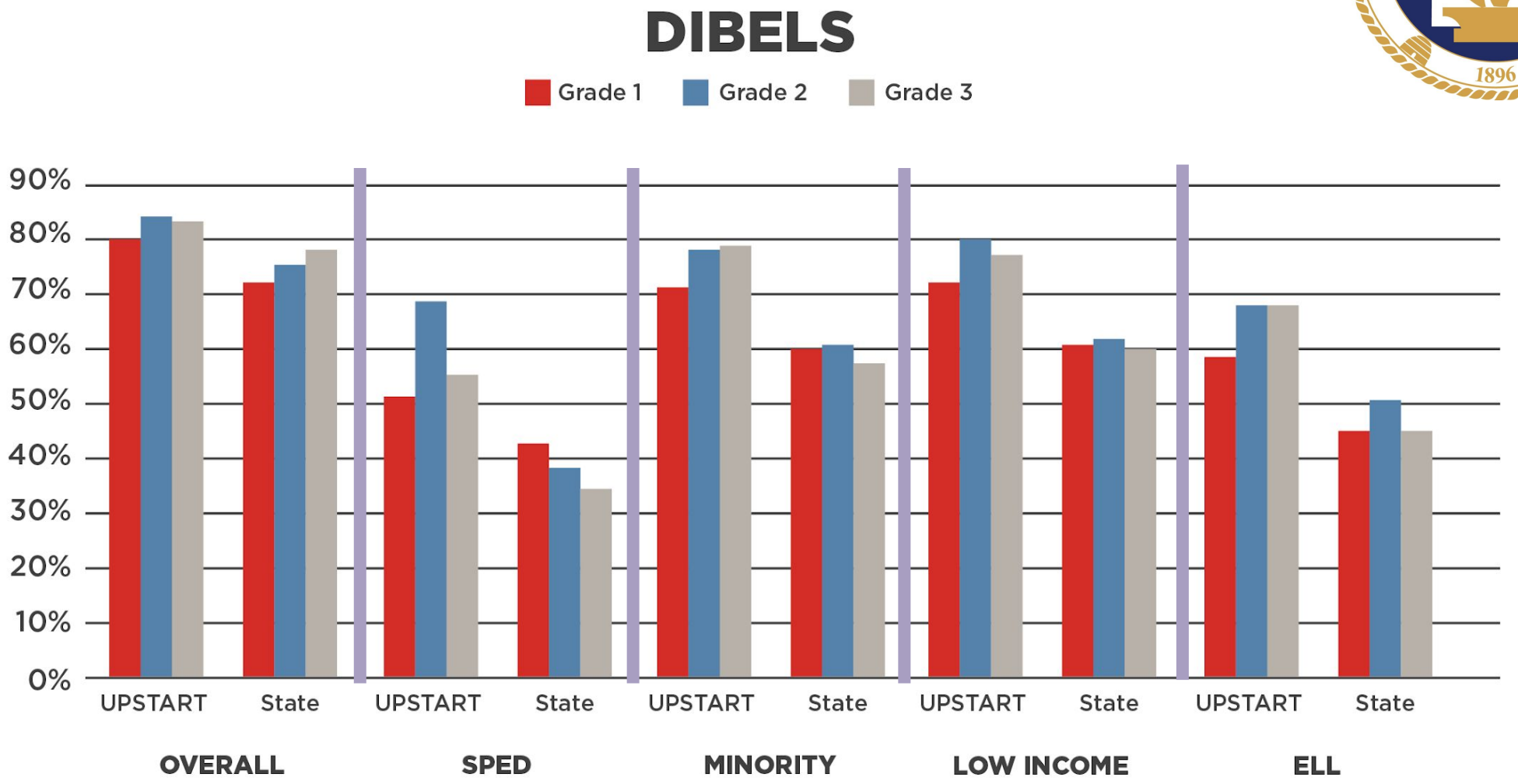


UPSTART children show 2x growth on the Brigance

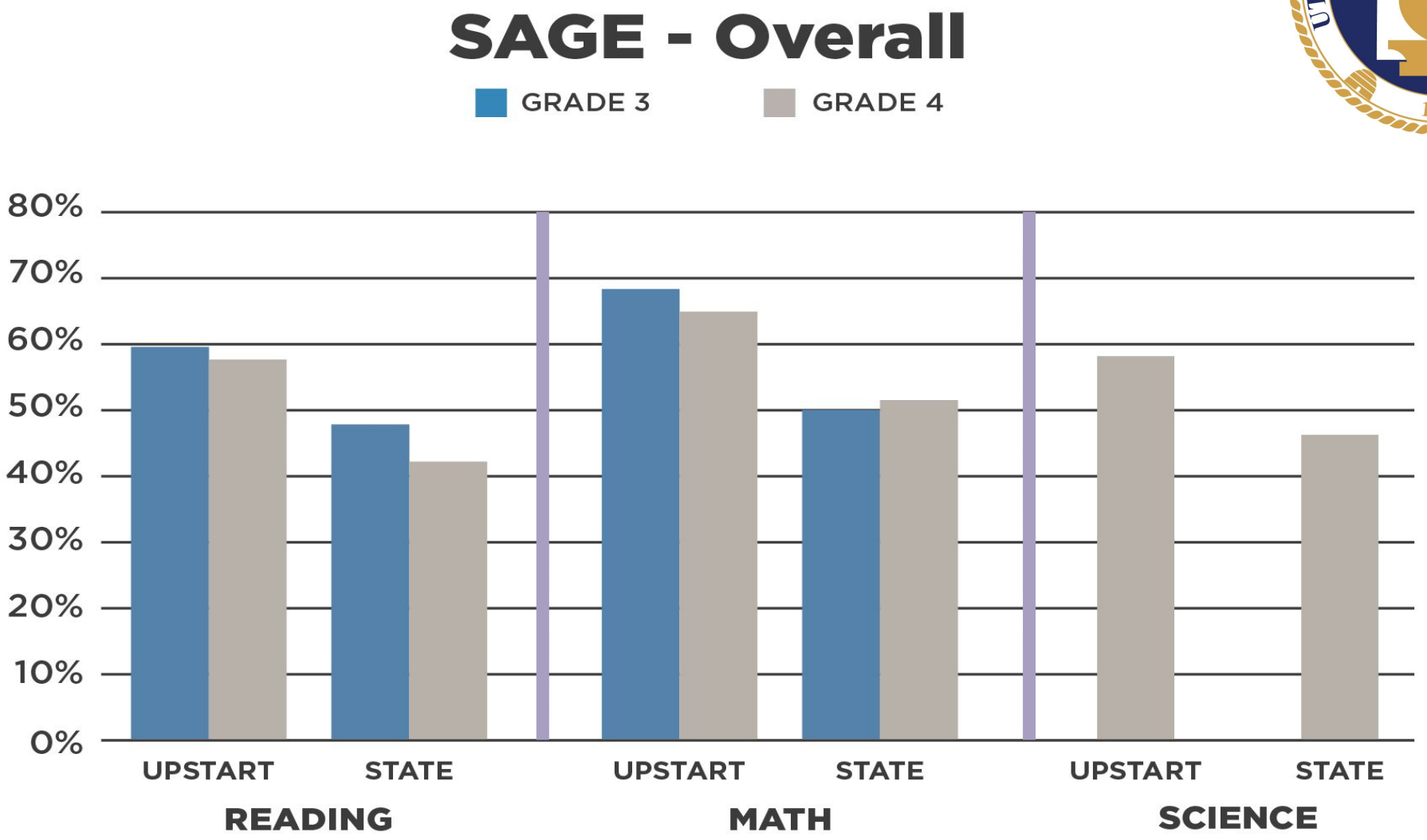


UPSTART children show 3x growth on the Bader

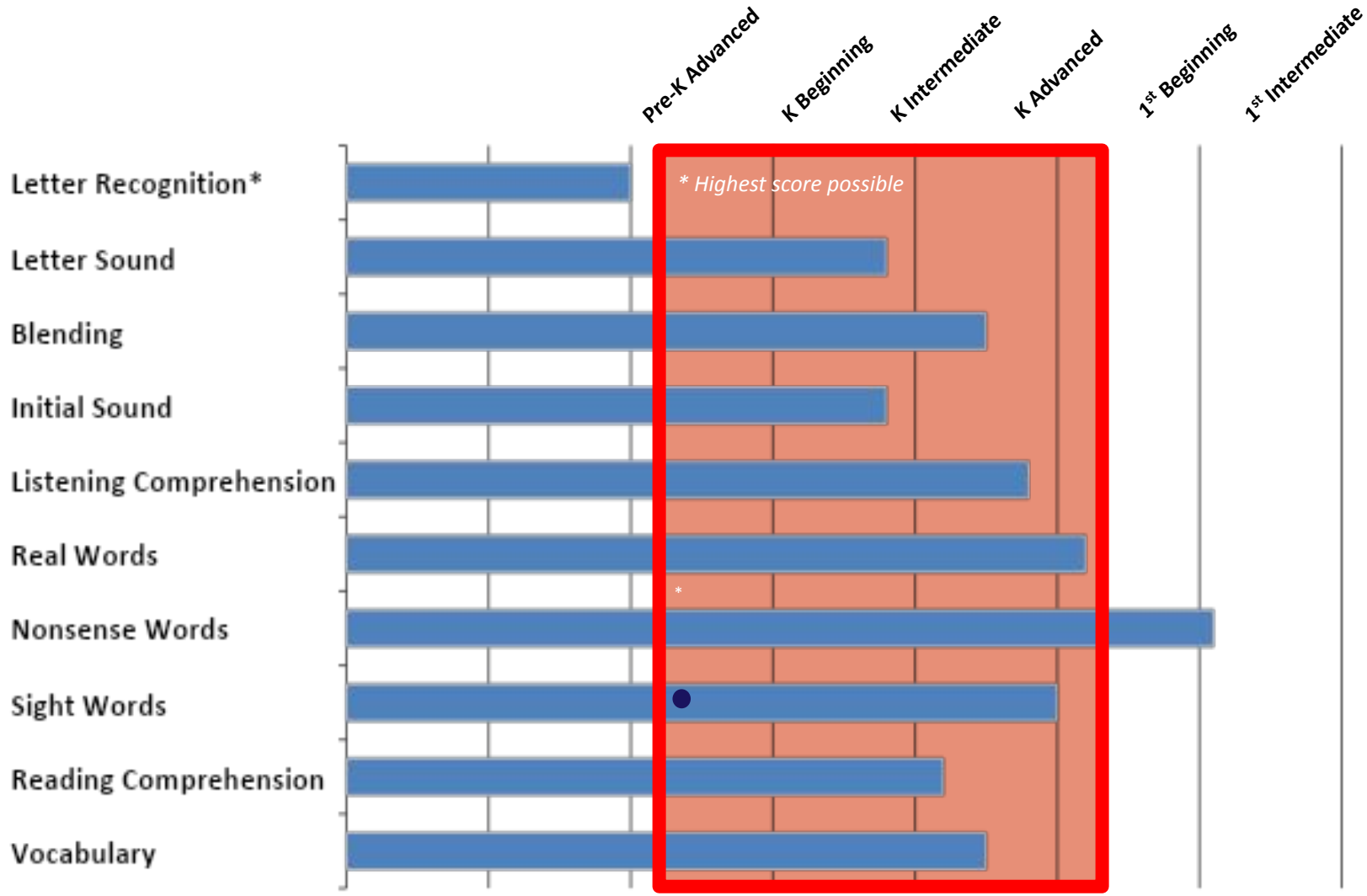
UPSTART – Longitudinal Results



UPSTART – Longitudinal Results



UPSTART Students in Utah Enter Kindergarten AT or ABOVE Grade Level



Silas, son of a single dad

What and Why 2-Gen?

In the United States, one-in-four parents lives in poverty, and 20 percent of children in the United States live in a household with income below the federal poverty level. More alarming, 44 percent of children live in households with income less than twice the federal poverty level. These statistics are even more pronounced when you consider the disproportionate impact of poverty on children of color. As shown below, in 2016 the U.S. Census Bureau found that child poverty status varied widely when disaggregated by race:

- 31 percent of black children.
- 31 percent of American Indian/Alaska Native children.
- 27 percent of Hispanic children.
- 25 percent of Native Hawaiian and Pacific Islander children.
- 11 percent of non-Hispanic white children.
- 11 percent of Asian children.

NCSL

A Fair Start: Ensuring all Students Are Ready to Learn

Education

NATIONAL CONFERENCE of STATE LEGISLATURES | JAN 2018

The National Conference of State Legislatures Identified UPSTART as one of three most effective Kindergarten Readiness Options

Bader Growth Rate Comparison
2017
2016
2015
2014
2013
2012
2011
0
4
6
8
10
Control
UPSTART
TED

THE AUDACIOUS PROJECT

A new model to inspire change at scale

K-3 Early Intervention Software Program

- Serves 55,000 Students Reading Below Grade Level
- Schools Choose from originally 7, now 4 State Approved Software Programs
- Requires Annual Third Party Evaluation to Measure Results
- Schools Lose Grants If They Fail to Use With Fidelity

Sonia Olsen's 4th Grade – 38 Students

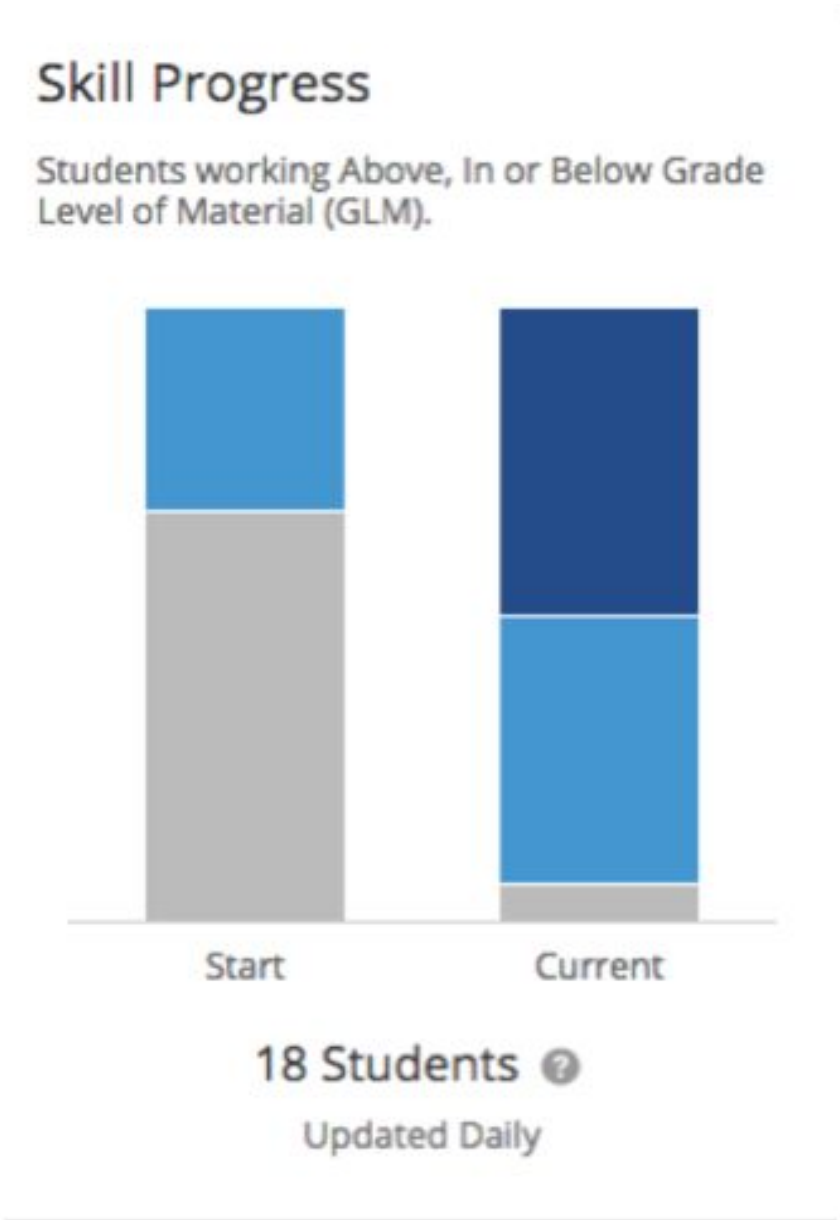
Salt Lake City School District

Spanish Dual Language Immersion School

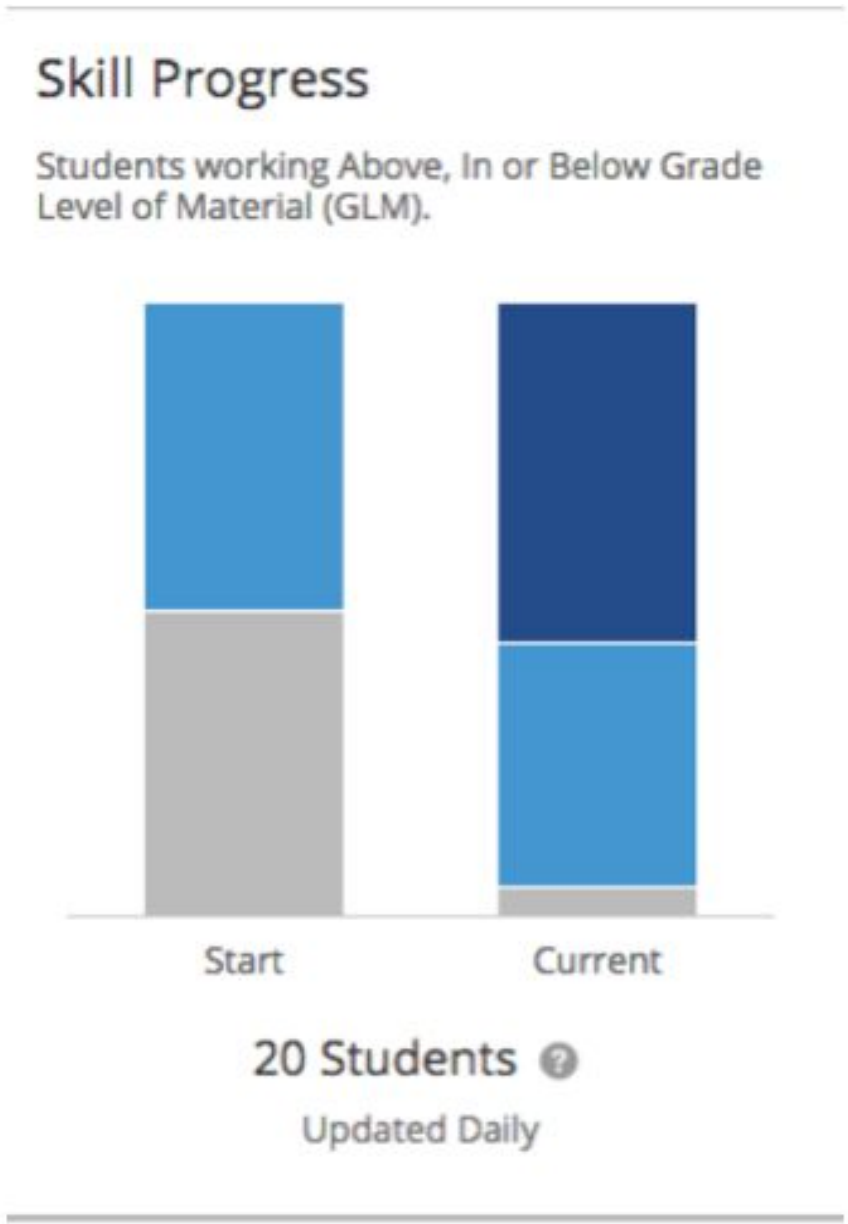
Split Day 3 Hours Per Day for Each Group

Early Intervention Software Program

Sonia Olsen's 38 4th Graders Averaged 2.5 Years Growth Using Reading Intervention Software with Fidelity



Class Chart Dual Immersion 1



Class Chart Dual Immersion 2

Honor Roll
Perfect

tools are as significant as cognitive benefits

- Self confidence
- Prevents Stigma of grouping students
- Sense of well-being
- Positive attitude toward school
- Fewer absences
- Social/emotional growth

NEXT BIG PROJECT, IMPROVING K-12 MATH

In 2013 the Utah Legislature Established the STEM Action Center and Funded 200,000 Math Software Licenses to Provide Immediate, Interactive, Adaptive Feedback

Math Software Licenses to Provide Immediate, Interactive, Adaptive Feedback

Serves 200,000 Grades 3-12 Math Students

Managed by STEM Action Center, Not DOE

Schools Choose From Multiple State-approved Providers

Requires Annual Third Party Evaluation to Measure Results

Schools Lose Grants If They Fail to Use With Fidelity

Moving to Contracts Where Providers Get Paid Only for Those Licenses Used with Fidelity

Does your math homework provide immediate feedback?
Or is it painful and produce negative self-labeling?

Statewide Online Education Program (SOEP)

- 2011 Legislation

- Teachers Licensed through CACTUS

- All 9-12 Grade Students Eligible Including Home and Private Students

- 2021 Legislation added 7th & 8th Grades

Utah's Statewide Online Education Program (SOEP)

Students can take 1-6 high quality online courses each year from providers such as:

- **ASU Prep Digital**
- **Florida Virtual Schools**
- **Middlebury**
- **Stride (K-12 Inc.)**
- **Utah Online, etc**

Utah's Statewide Online Education Program (SOEP)

All Courses are aligned to state standards

These are NOT credit recovery courses

Reimbursement Rates: $869 per Core Credit, $619 per Elective

Utah State Board of Education approves nation's first statewide digital teaching and learning master plan

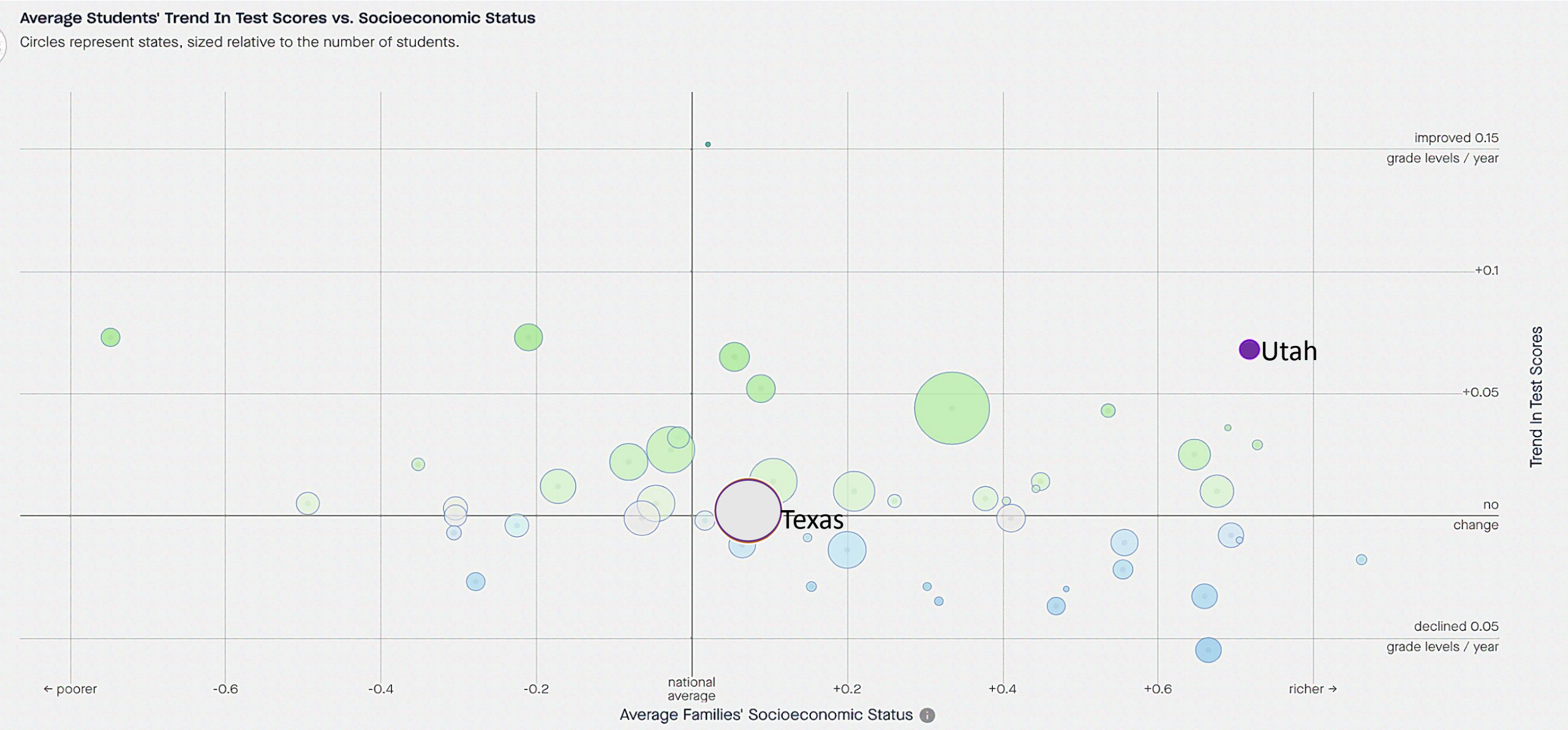
The Utah State Board of Education approved the nation's first statewide digital teaching and learning master plan, entitled **Essential Elements for Technology Powered Learning**, on Friday, October 9, 2015.

The plan came out of **Senate Bill 222** from the 2015 Utah Legislature. The bill required the Board to appoint a task force to create a master plan with an eye on setting up funding for a statewide public school technology program for the Legislature to consider in 2016.

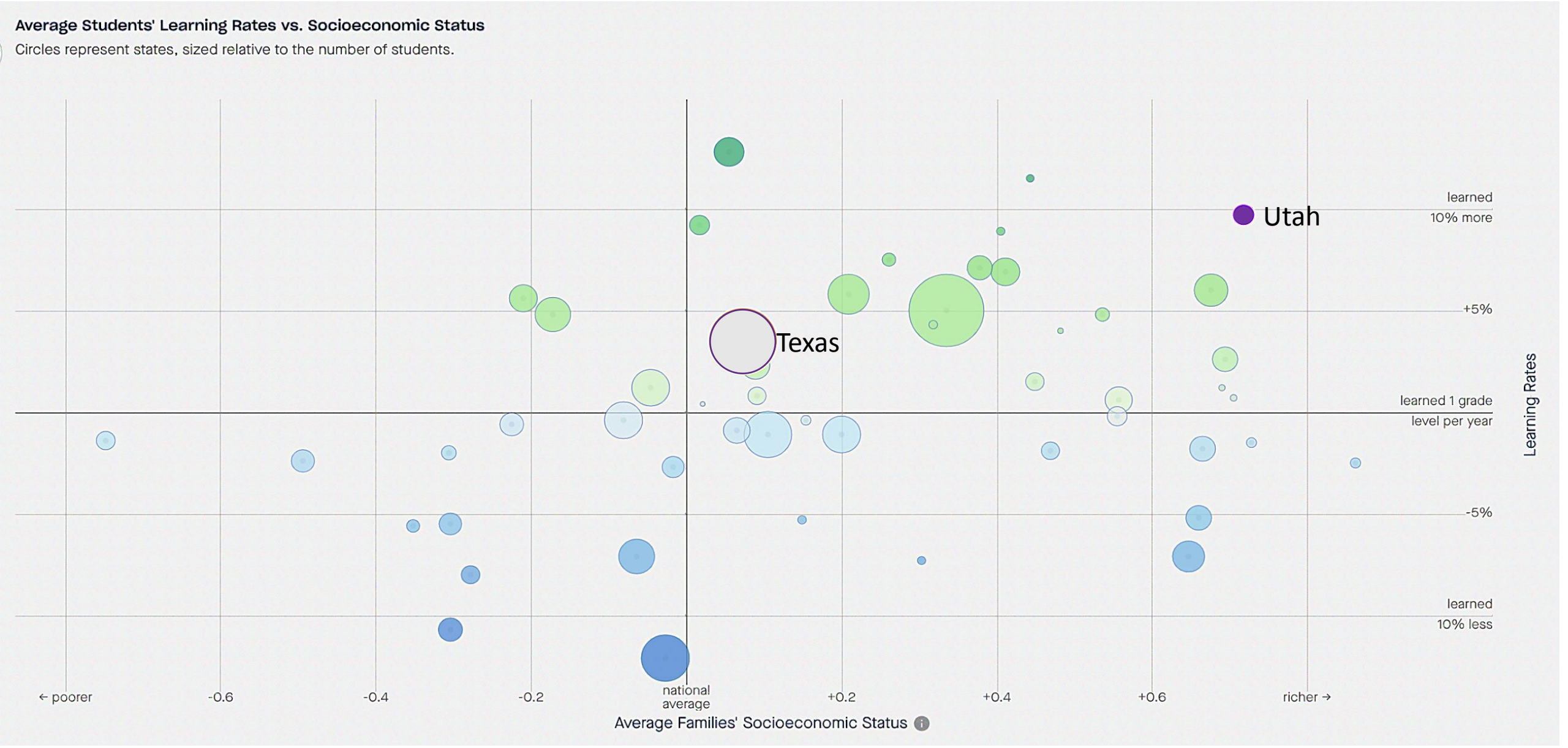
Teachers should not be threatened by Computer Assisted Teaching & Learning

- Accountants embraced Electronic Spreadsheets
  - Accountants repurposed to much higher contribution
- Engineers embraced Computer Assisted Drafting (CAD)
  - Engineers repurposed and in much greater demand
- Teachers who use virtual teaching & learning tools with fidelity can get 90% of any class at grade level in a single year
  - Teachers are working too hard! Their core competencies are the higher levels of Bloom's Taxonomy

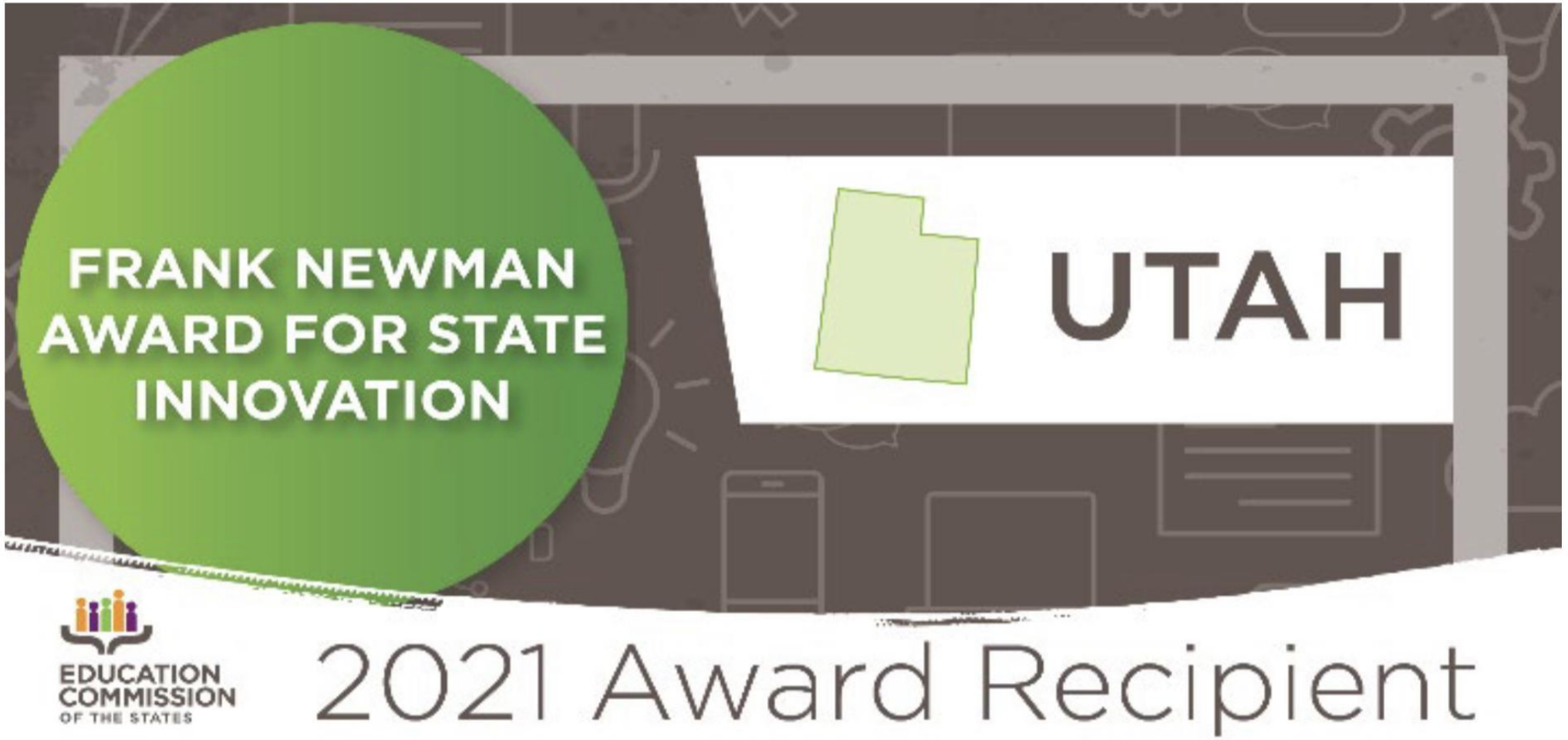
Average Students' Trend in Test Scores - Stanford 10-Year Study



Average Students' Learning Rates - Stanford 10-Year Study



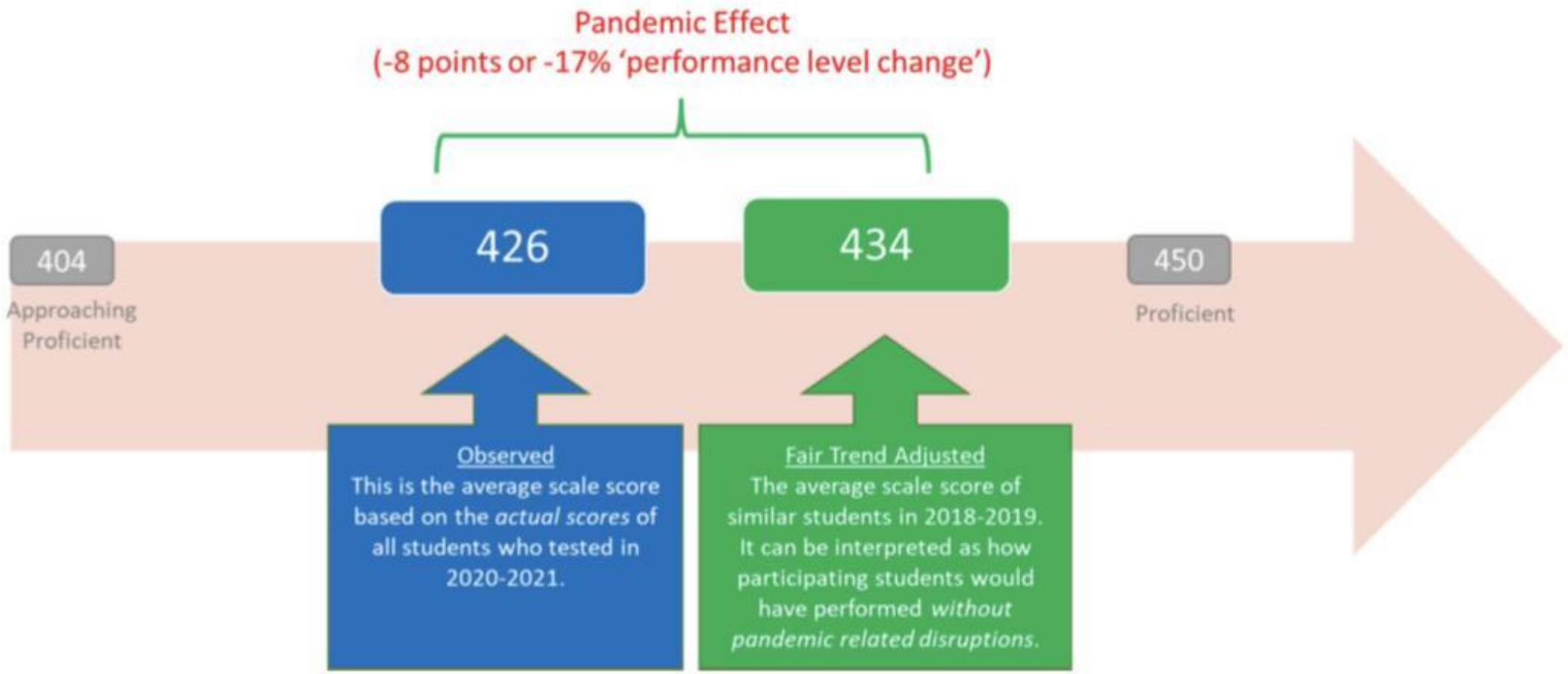
Utah is the ECS 2021 Frank Newman Award Recipient for Innovation
Utah has the first Statewide Digital Teaching and Learning Masterplan



November 9, 2021 (Washington D.C.) – The State Educational Technology Directors Association (SETDA), named Utah State Superintendent Dr. Sydnee Dickson the 2021 recipient of the SETDA State Policy Maker of the Year Award for exemplary leadership in championing digital learning opportunities for all students and engaging with the broader education and policymaking communities to advocate for the role of technology in advancing education.

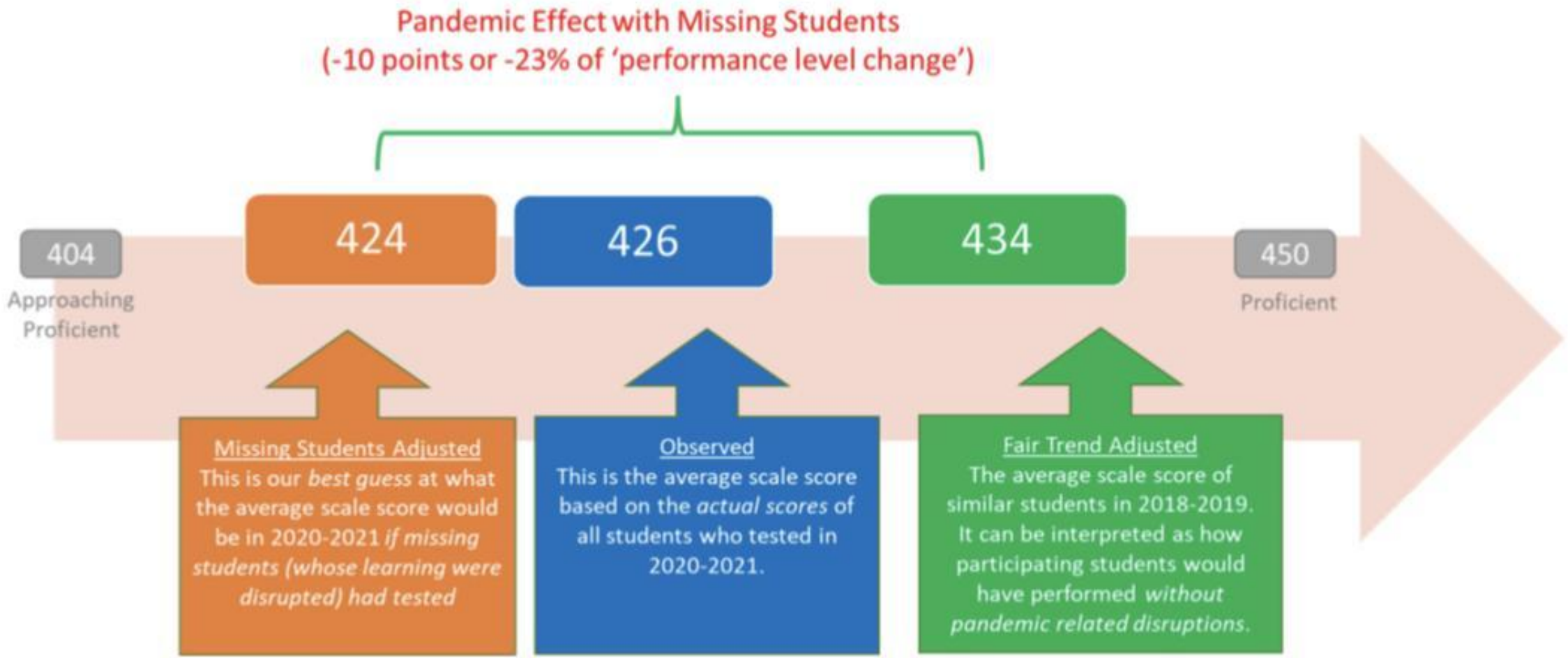
Utah Pandemic Effect -8 points or -17%

Figure 1: Comparing the Observed and "Fair Trend" Adjusted Scores



Utah Pandemic Effect w/ Missing Students -10 points or -23%

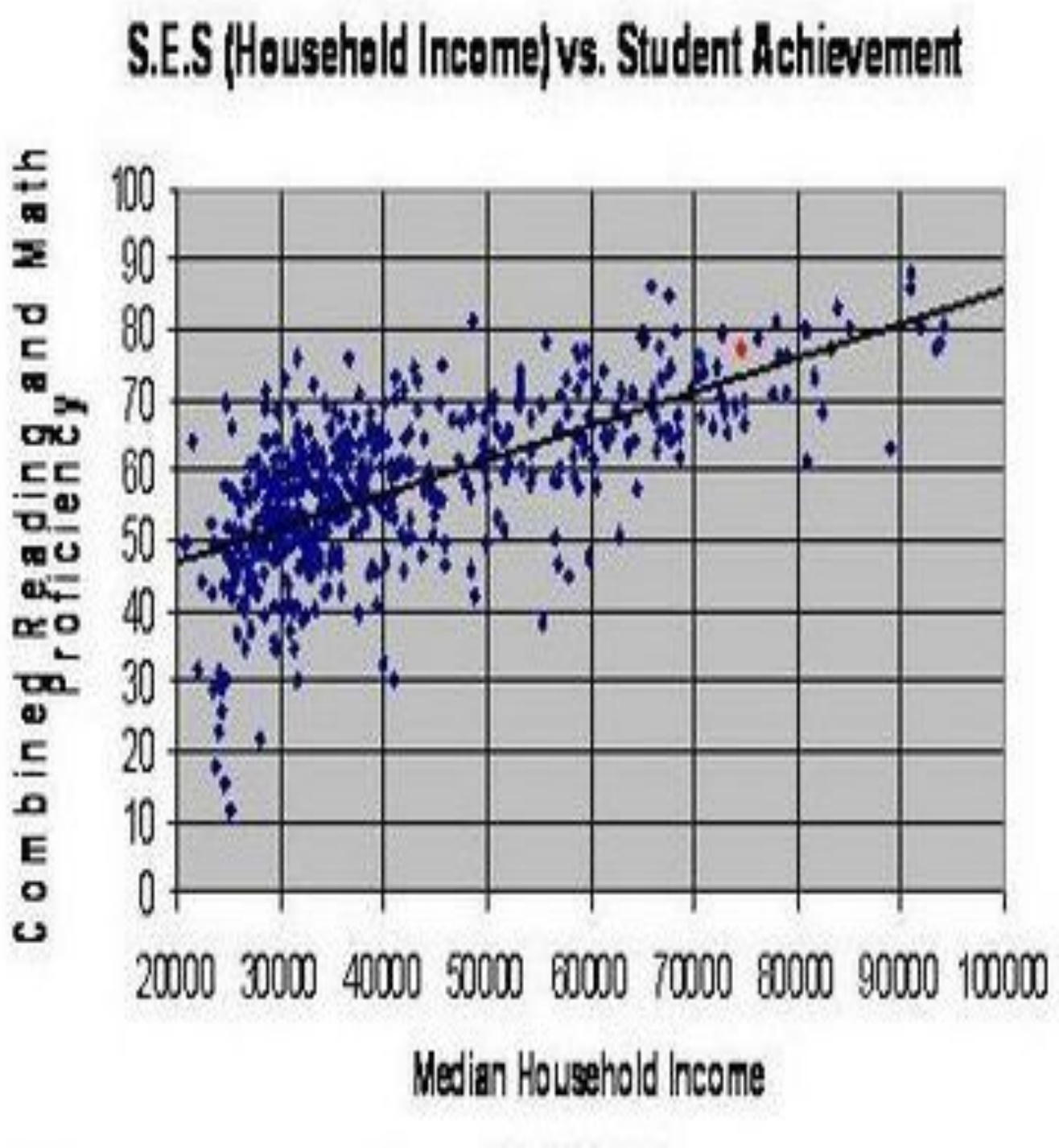
Figure 6: Comparing the "Missing Students" and "Fair Trend" Adjusted Scores



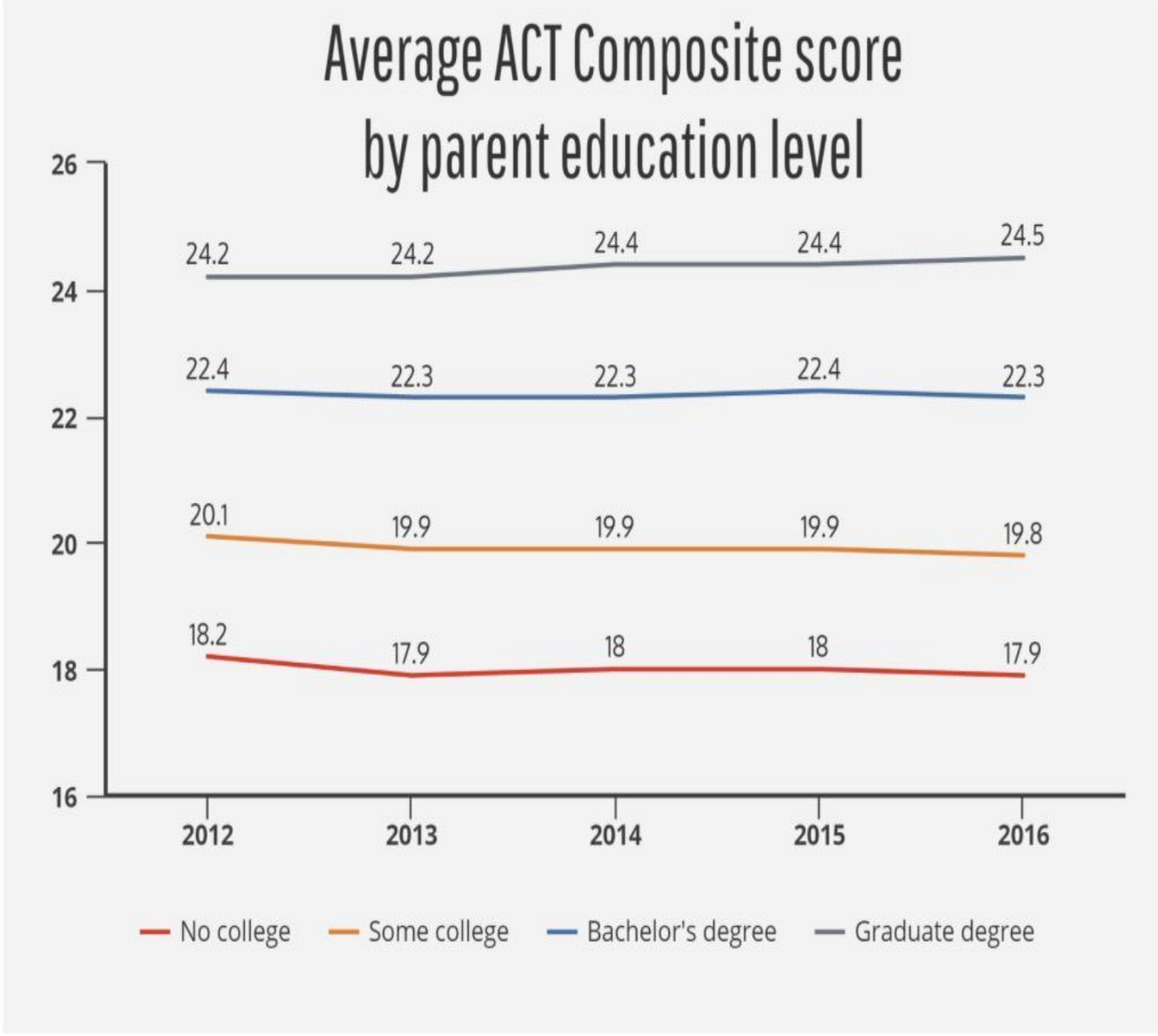
Typical Excuses for Failing Students

- Low Income
- Minority
- Special Needs
- English Learners

Correlation of Household Income to Student Math and Reading Proficiency



The Soft Bigotry of Low Expectations



NAEP:
2013-2019
Math & Reading Scores Continue to Drop, Especially for the 10th Percentile

Statistically significant changes in national results from 2013-2019

	Reading		Math	
	Grade 4	Grade 8	Grade 4	Grade 8
National	-2	-4	-1	-3
White Students	-2	-3	-1	-2
Black Students	-2	-5	1	-3
Hispanic Students		-3	2	-4
90th percentile	-1	-1	1	2
10th percentile	-6	-13	-4	-6

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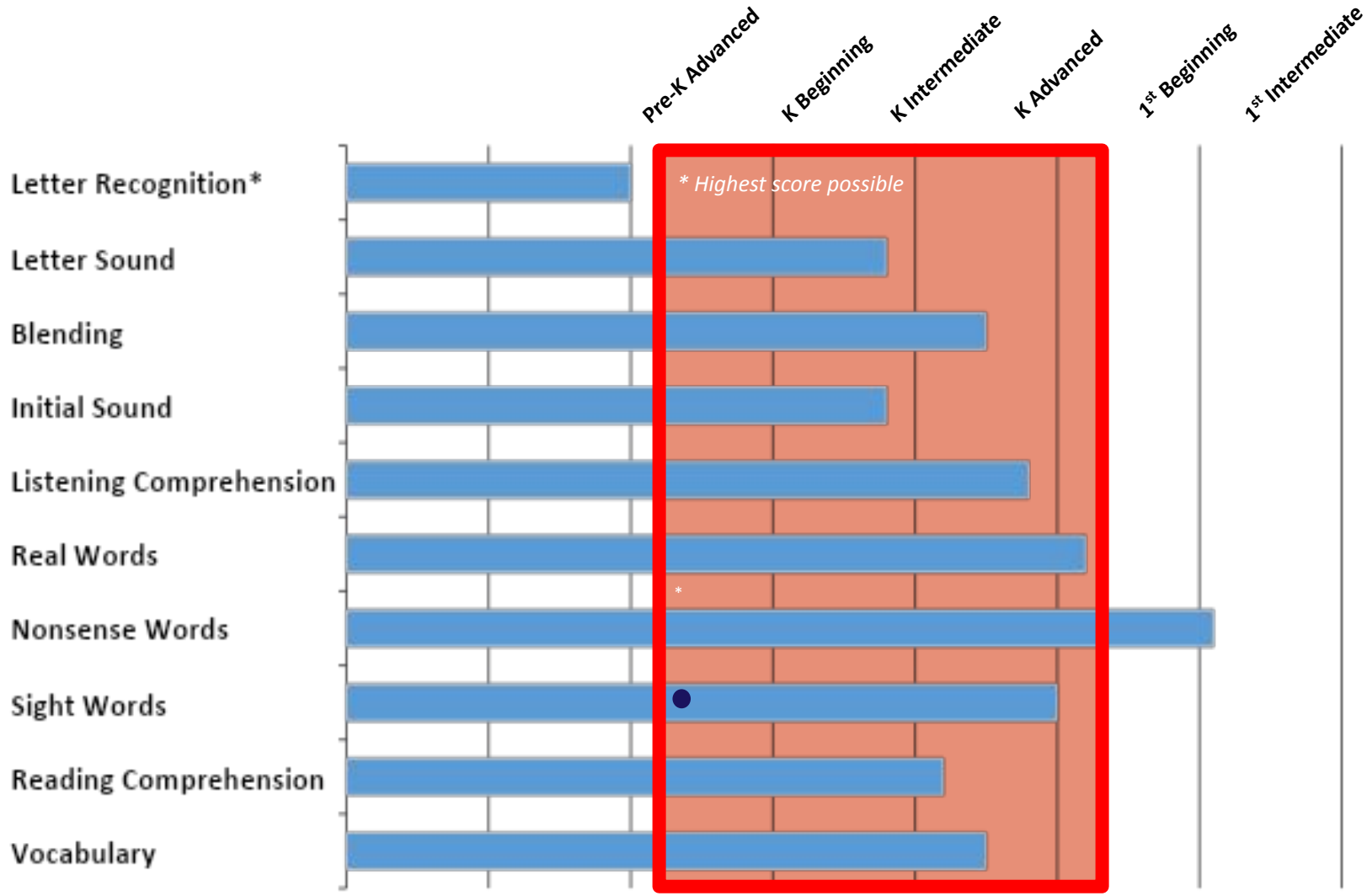

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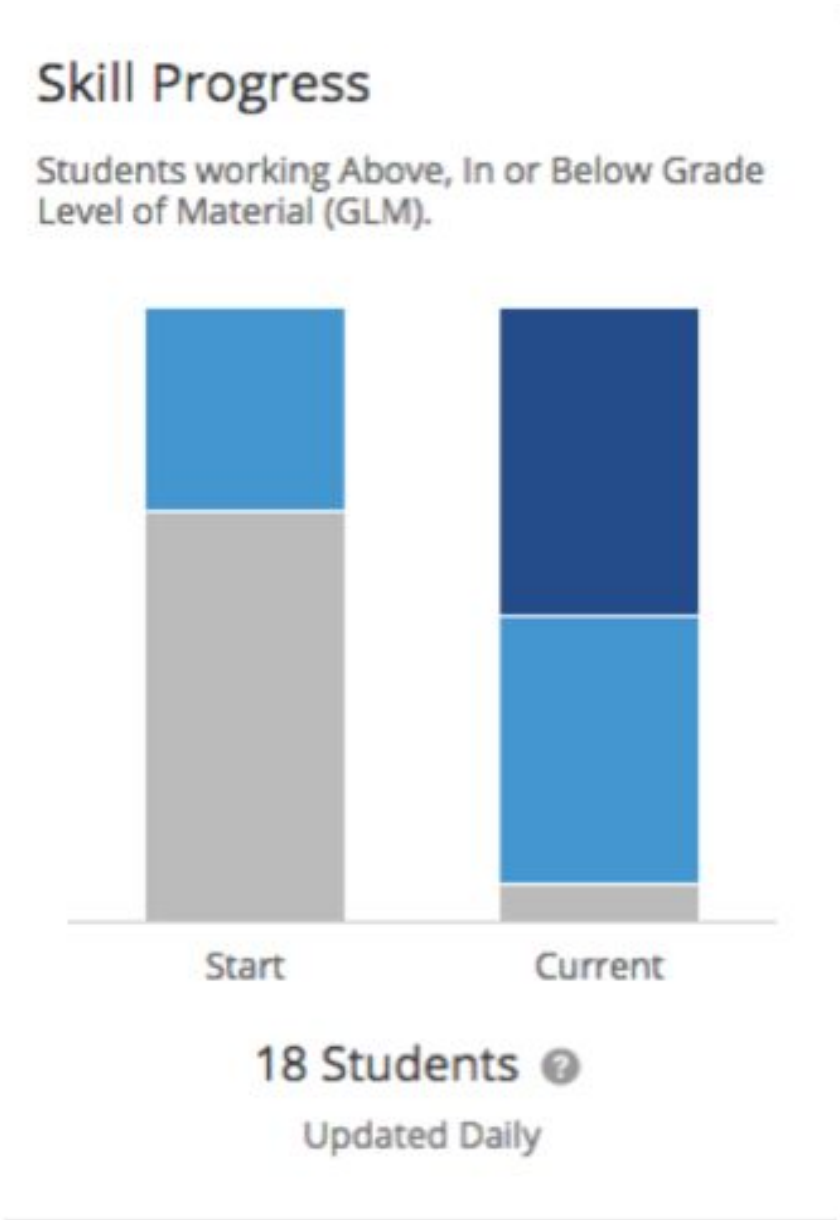

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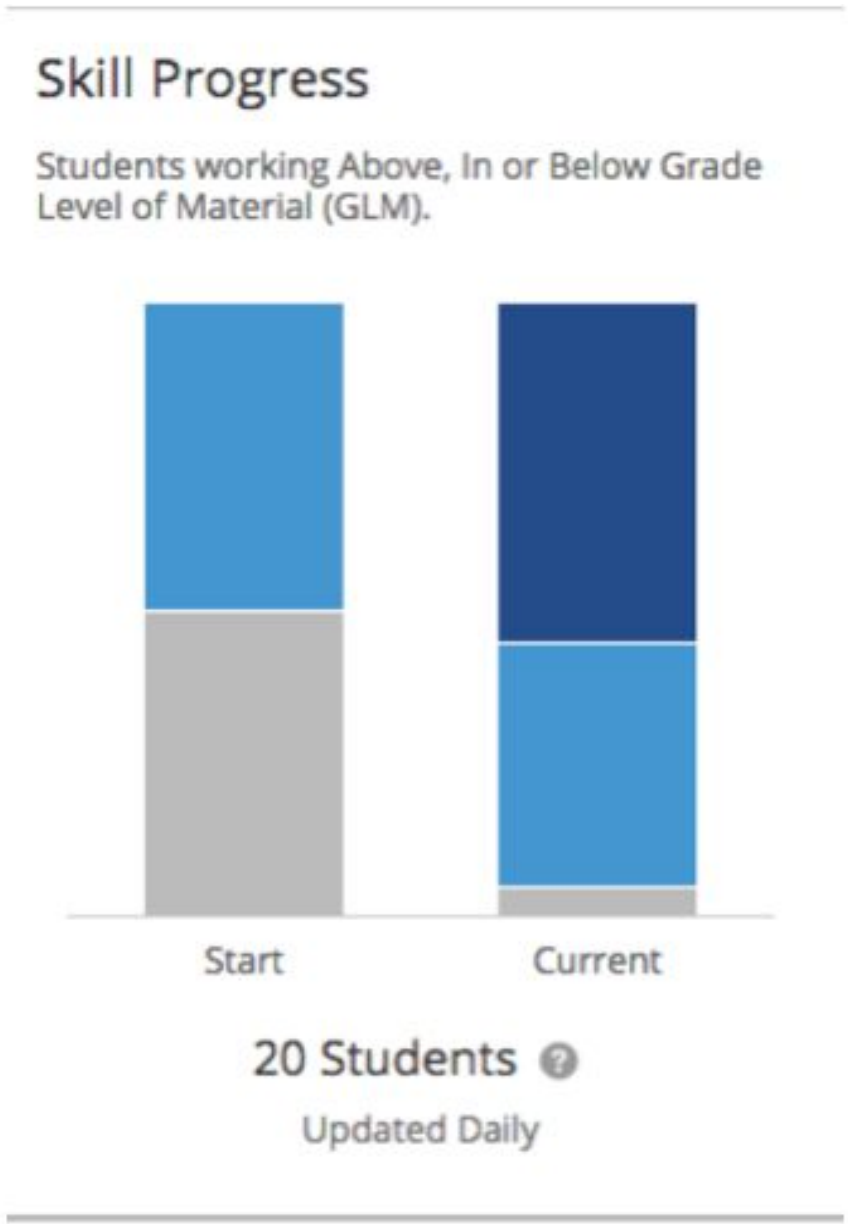

Class Chart Dual Immersion 2

Starfish allegory

Starfish allegory

– Making a difference for that one

Starfish allegory in education admits that millions will be left behind

We can re-immerse all students in an environment where they can not only survive, but thrive!

Utah's Experience with Digital Teaching & Learning

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Texas Virtual Education Commission
Austin, Texas

April 27, 2022

Extra Slides if Needed During Discussion

It’s NOT about the Device!
It’s About Student Engagement!