

Becoming the BTC Teacher You Want to Be



BTC is more than a set of moves—it's a journey of becoming. But **becoming the BTC teacher you want to be is too hard to do alone.**

In this session, we'll explore how to realign our professional practice with our purpose, find our people, and **build the community of support we need to keep growing** into the teacher we're trying to become.

It's a great day of teaching when I see/hear/feel
my students _____ in math class.

why

reason,

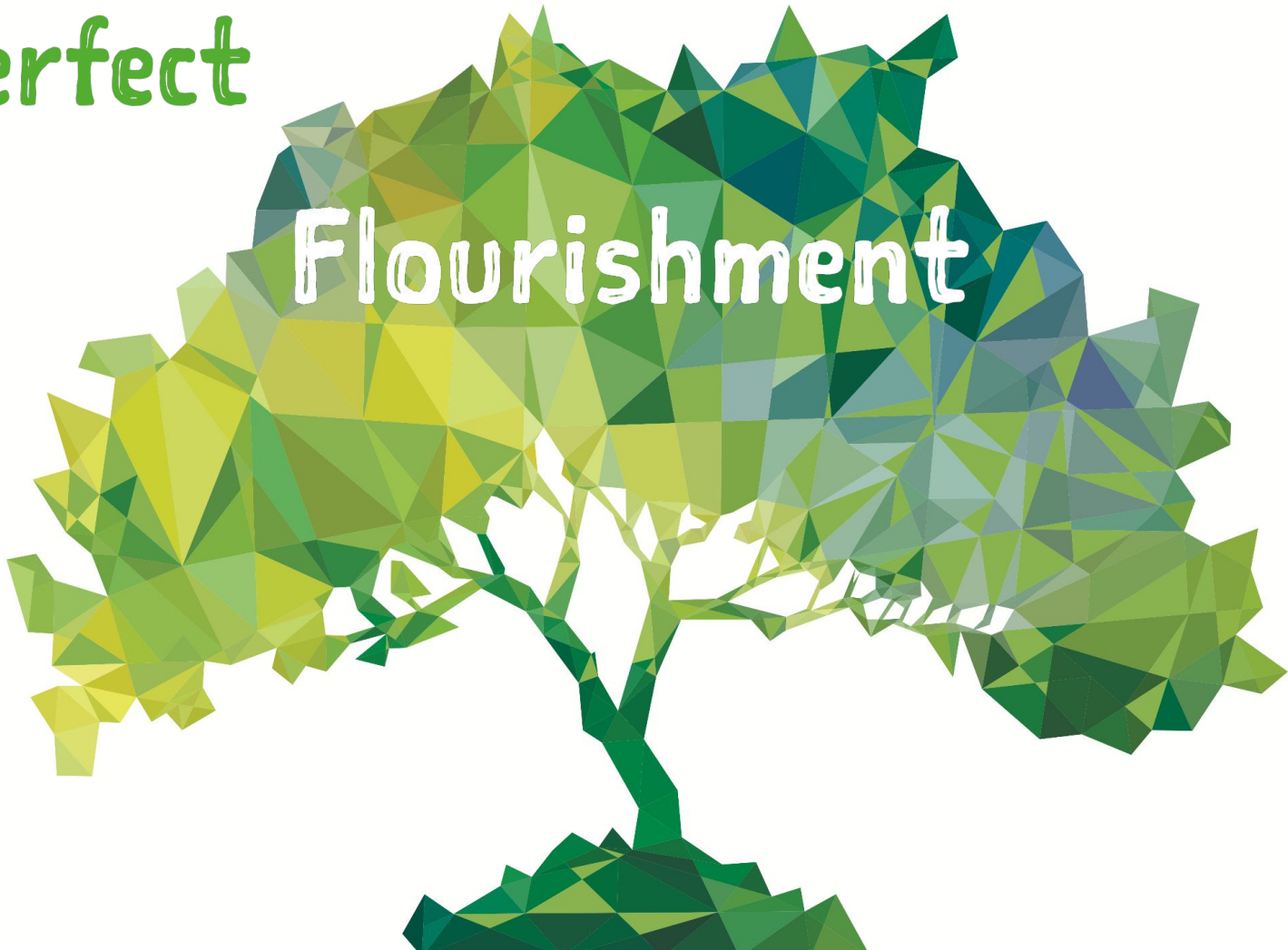
purpose



Flourishment

Imperfect

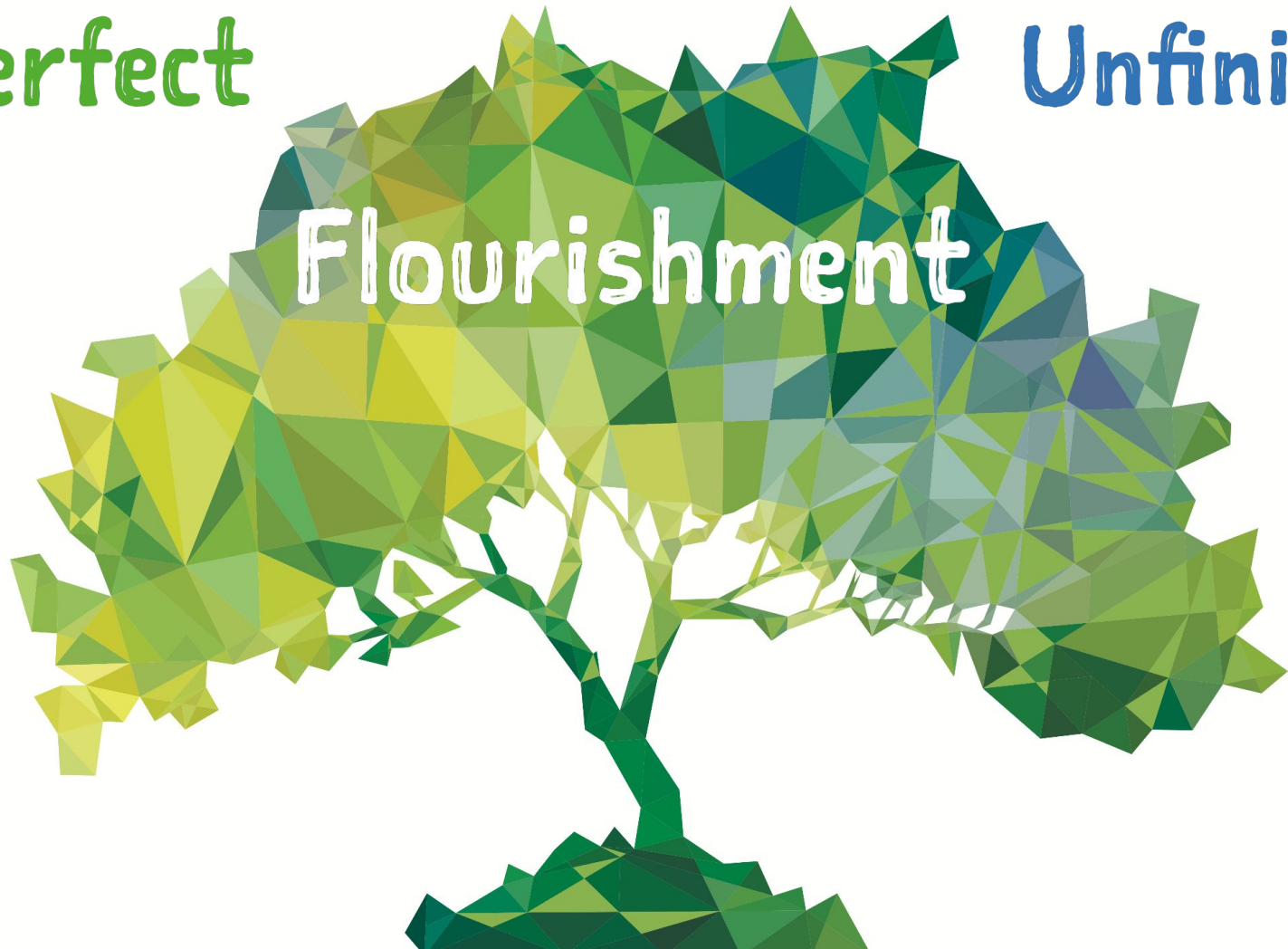
Flourishment





Imperfect

Unfinished



Flourishment



A man wearing a green jacket, a colorful scarf, and a beanie is standing in a field. He is holding a long pole with a red and white striped windsock at the top. He is also holding a checkered umbrella. The background shows a cloudy sky and distant hills. The text "Headwinds" is written in a white, stylized font in the bottom left corner.

Headwinds

The Issue

What we call “professional development” is underperforming.

It is neither professional, nor does it develop.

—Steve Leinwand, Former President of NCSM

The Issue

-NCTM, *Principles to Action:
Ensuring Mathematical Success for All*, 2014

Principles to Actions

ENSURING MATHEMATICAL SUCCESS FOR ALL



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

The Issue

The current structure of **PD often stands as an obstacle to the development of a culture of professionalism.**

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Teachers frequently feel as though PD is something done to them, instead of something done for them, involving them as active partners in their own professional growth.

Too much of what currently is offered to teachers as **PD has limited value and makes little impact on their pedagogical knowledge, their practice, or their students' achievement.**

-NCTM, *Principles to Action:
Ensuring Mathematical Success for All*, 2014

Principles to Actions

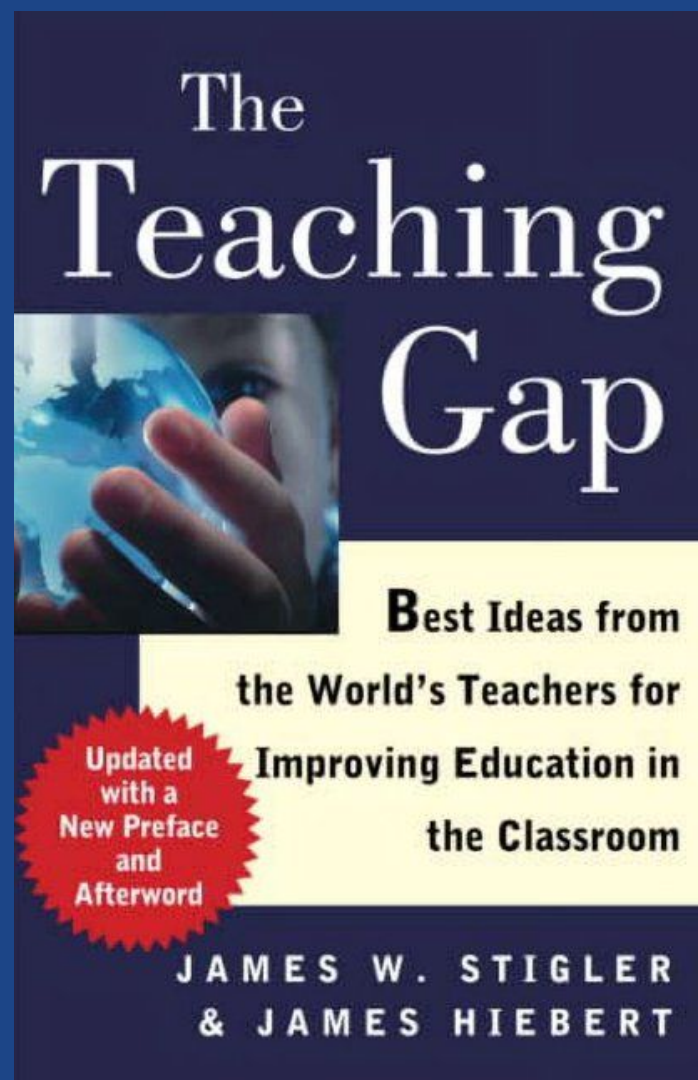
ENSURING MATHEMATICAL SUCCESS FOR ALL



NATIONAL COUNCIL OF
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The Issue

—Stigler and Hiebert, *The Teaching Gap*, 1999



The Issue

The United States is always reforming but not always improving.

—Stigler and Hiebert, *The Teaching Gap*, 1999

The Teaching Gap



**Best Ideas from
the World's Teachers for
Improving Education in
the Classroom**

**Updated
with a
New Preface
and
Afterword**

**JAMES W. STIGLER
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The most alarming aspect of classroom teaching in the United States is not how we are teaching now, but that **we have no mechanism for getting better.**

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The hard work of **improving teaching** in the United States can't succeed without **changes in the culture of teacher learning.**

—Stigler and Hiebert, *The Teaching Gap*, 1999

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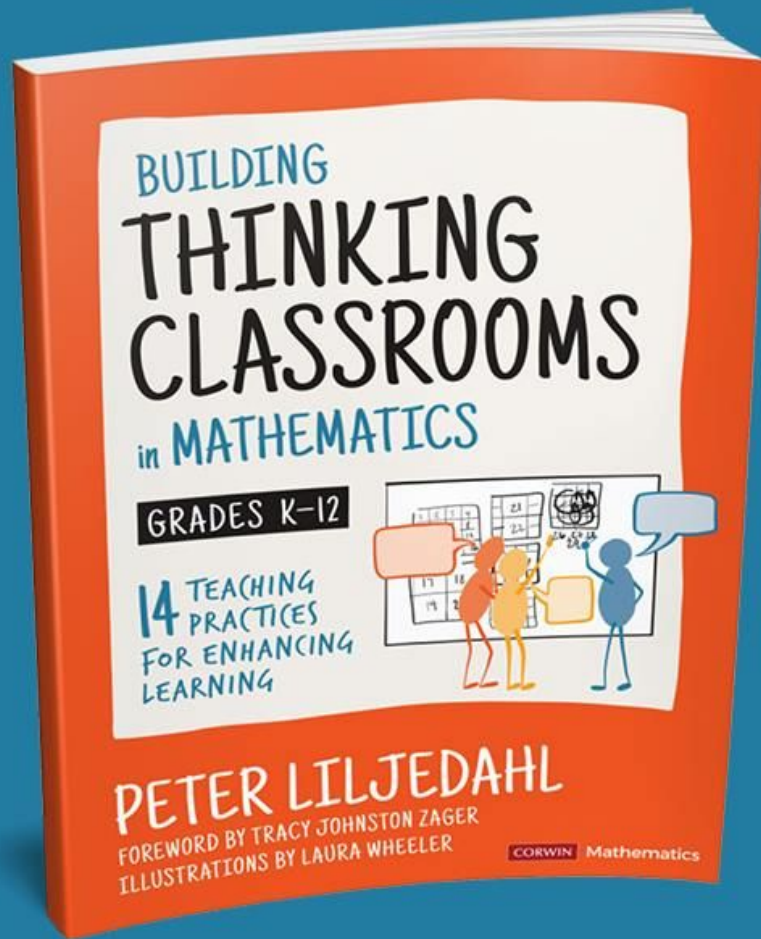
The Imperfect and Unfinished Math Teacher

A Journey to Reclaim Our Professional Growth
The system won't do it for us. But we have each other.



Chase Orton *(And You!)*
Foreword by Steve Leinwand

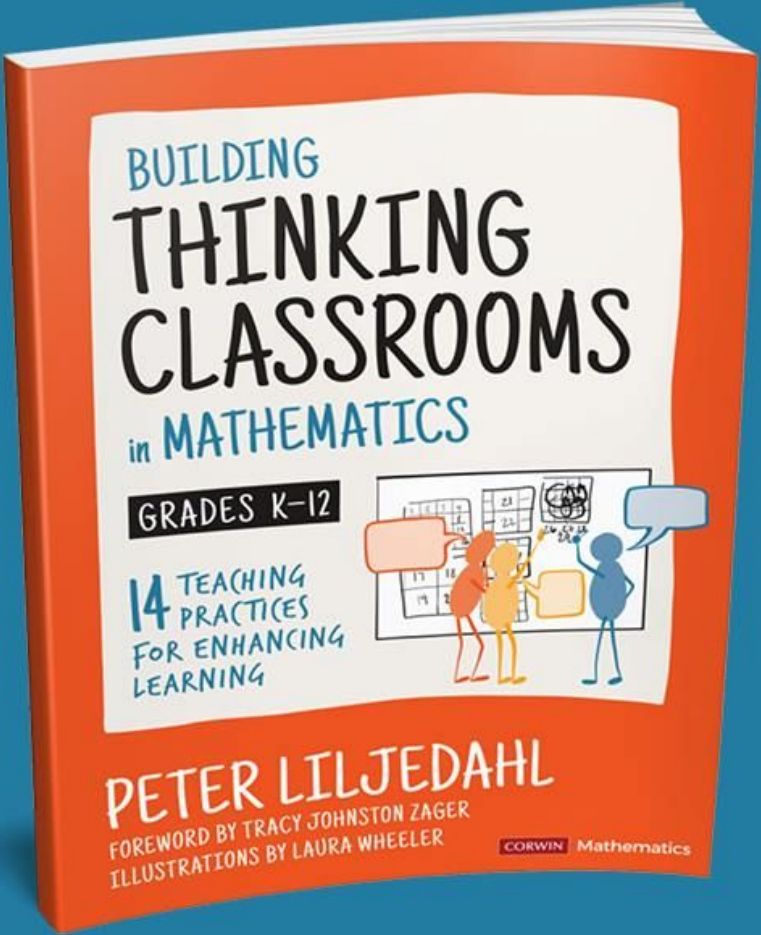
CORWIN Mathematics





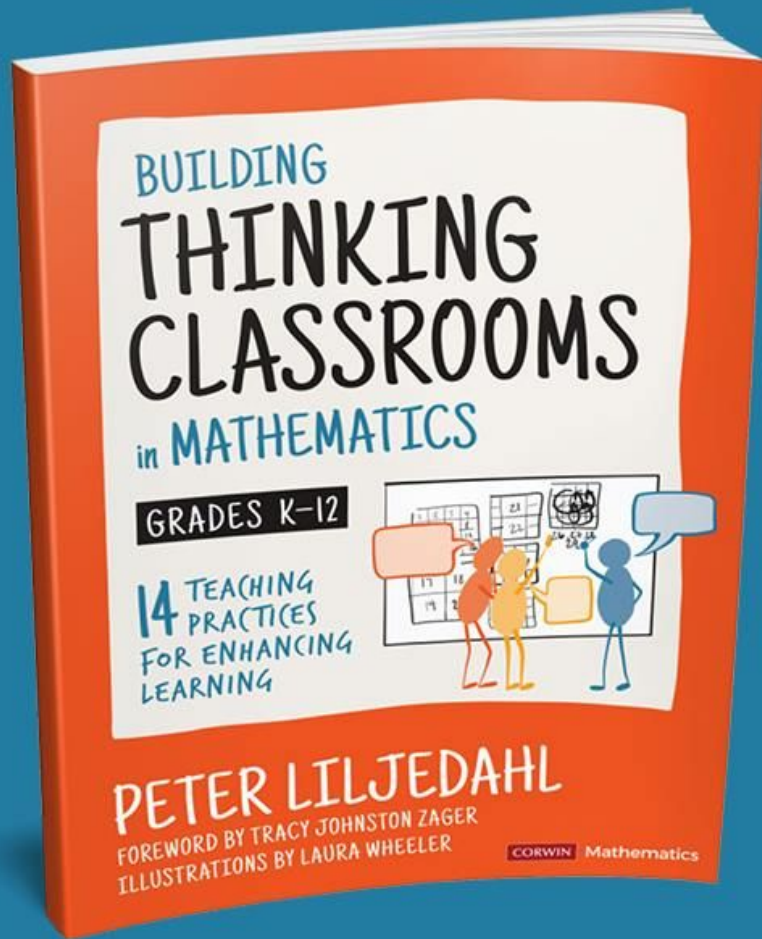
**Institutional
Norms**

**Students Not
Thriving**



DISRUPT

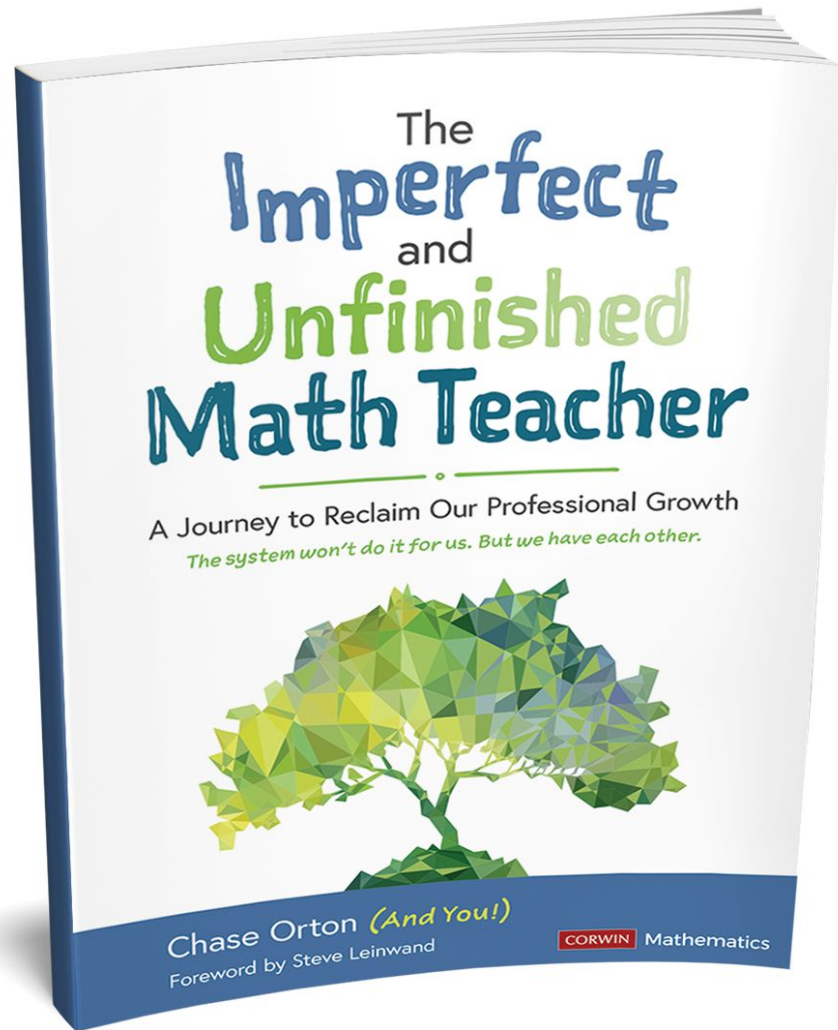
Institutional Norms Students Not Thriving





**Institutional
Norms**

**Teachers Not
Thriving**



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Institutional Norms Teachers Not Thriving

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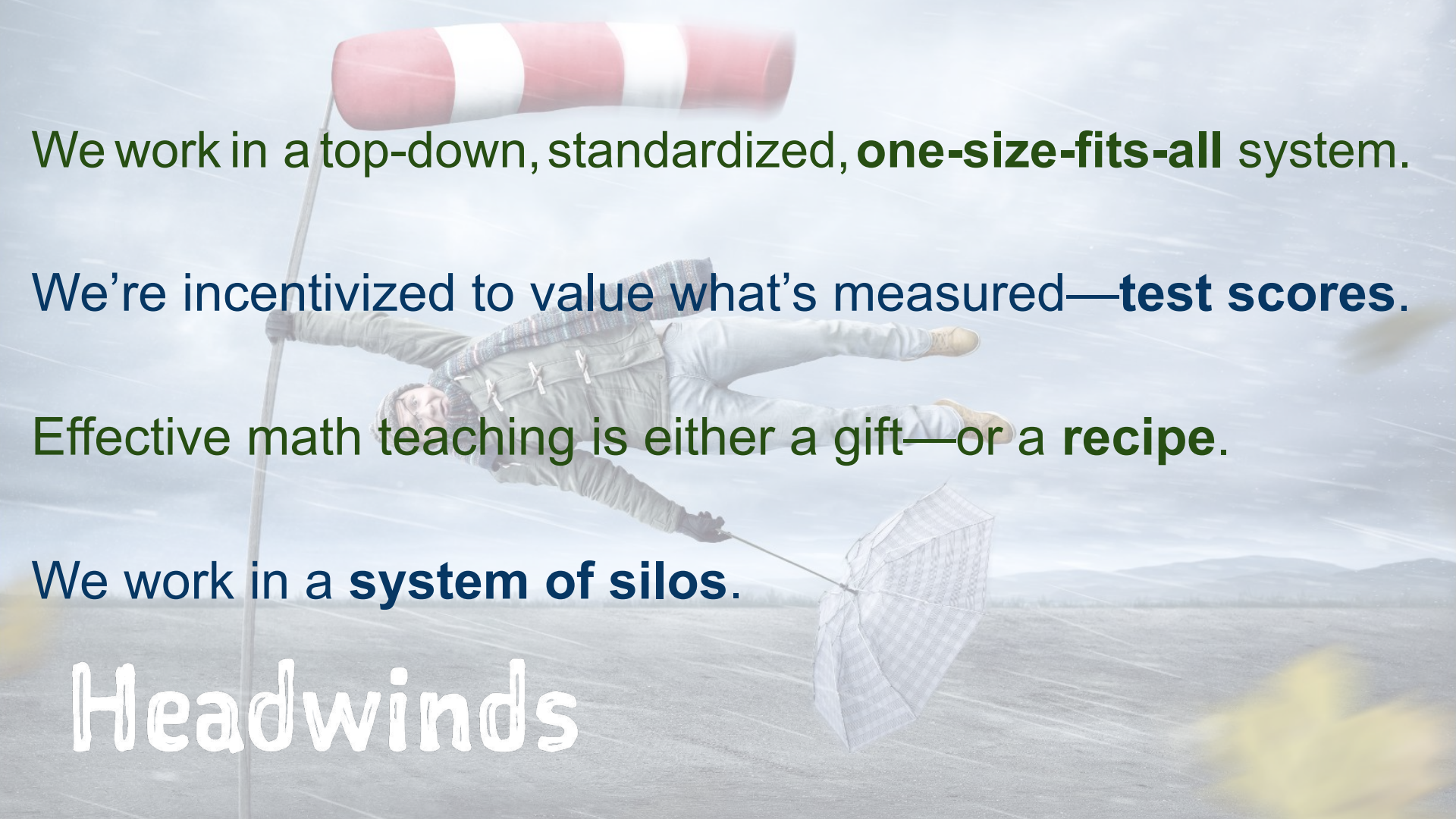


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Headwinds



We work in a top-down, standardized, **one-size-fits-all** system.

We're incentivized to value what's measured—**test scores**.

Effective math teaching is either a gift—or a **recipe**.

We work in a **system of silos**.

Headwinds

Two Opposing Models of PD

-Elizabeth Green, *Building a Better Teacher*, 2014

Elizabeth Green
BUILDING

**BETTER
TEACHER**
HOW TEACHING WORKS

(and How to Teach It to Everyone)

Includes bonus PDF disc with images

READ BY KAREN SALTUS | UNABRIDGED

Two Opposing Models of PD

Neither accountability nor autonomy is enough...because **both arguments subscribe to the myth of the natural-born teacher.**

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-Elizabeth Green, *Building a Better Teacher*, 2014

Elizabeth Green

BUILDING



BETTER TEACHER

HOW TEACHING WORKS

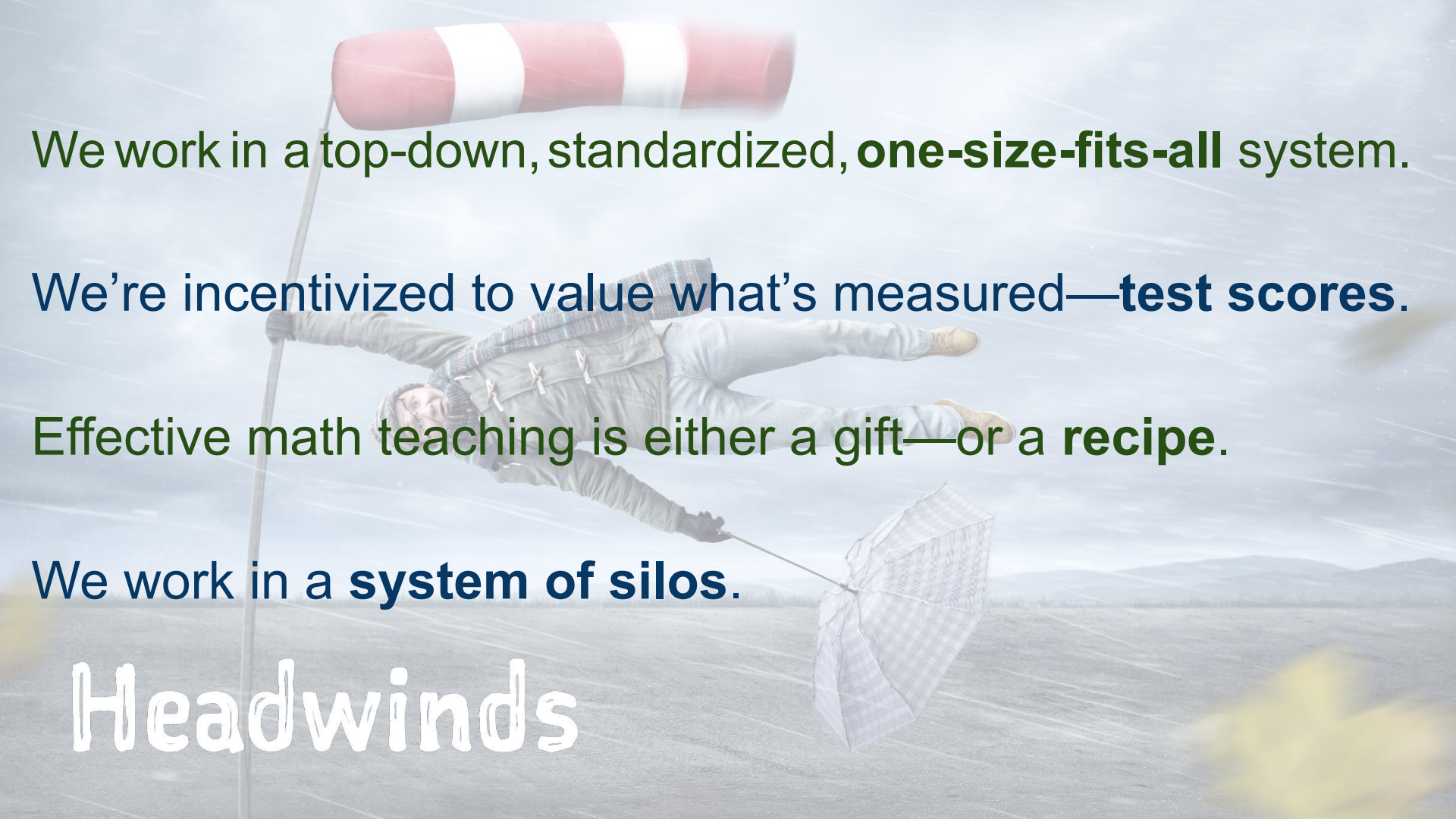
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Headwinds

Teaching is a craft we learn
best through each other.

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CORWIN Mathematics



Let's Read!

chaseorton.com/passion

What is your Passion Profile? What nourishes you as a teacher? What gives you flourishing?

Mirroring Conversation

Find your group of 3.

Introduce yourselves:

What's your name?

What's your role?

Where do you work?

And then figure out who's birthday is next.



Mirroring Conversation

Birthday person

For the next ten minutes, you're the most important person in the room.

Give a 3-4 minute snapshot of your passion profile. Then allow your group members to respond.

Be real. Be authentic. Be you.



Mirroring Conversation

You're role is to be the best mirror you can be. Give your whole attention to them.

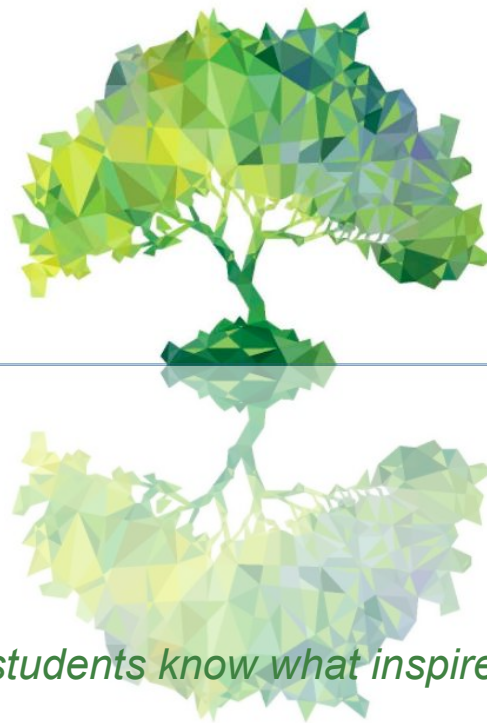
Be curious, not judgmental. And set aside desires to be autobiographical.

Something I hear you saying... Tell me more about...

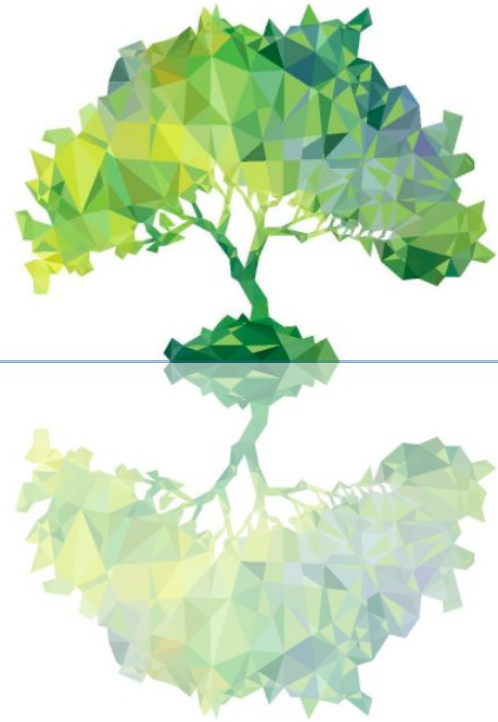
What nourishes you? What gives you wholeness as a teacher?

How do you show your passions to your students? How do your students know what inspires you and what matters most to you as a teacher?

How have your passions changed over time? What, if anything, caused the shift? How might they change moving forward?



How was that experience for you?





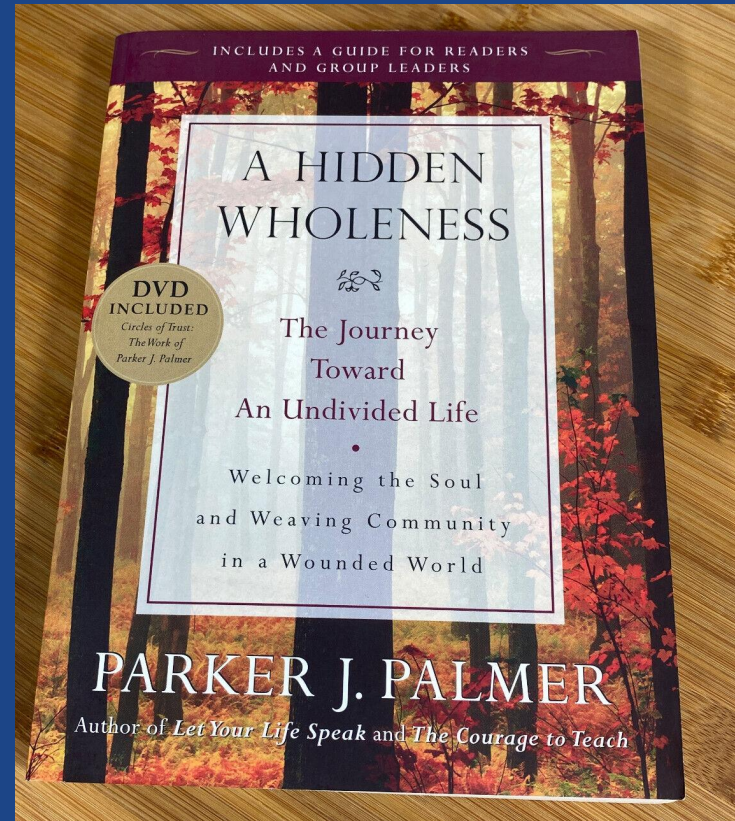
Equity Actions

1. **Position each learner as capable** of directing their own learning.
2. **Enhance identities** of each learner in ways that **foster their sense of agency**.
3. **Elevate each learner's voices** in a culture of **shared authority** shared.
4. **Value the multiple perspectives** learners have to offer from their unique lived experiences.



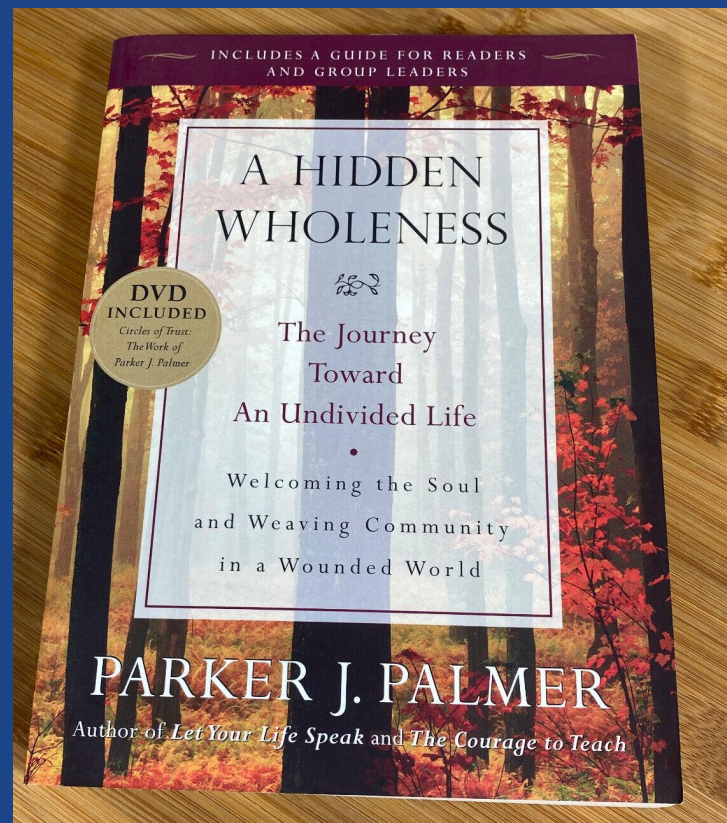


-Parker Palmer



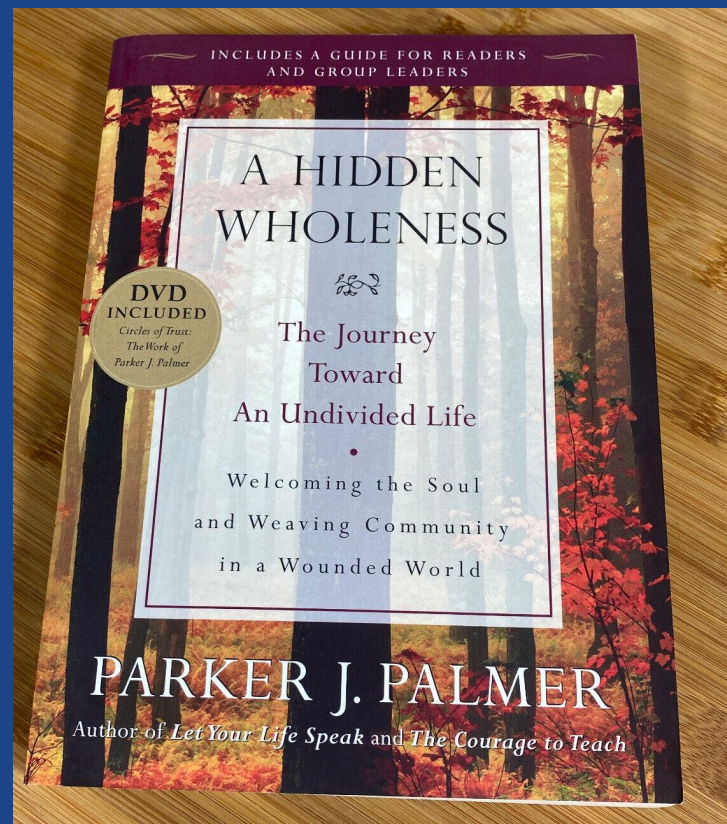
We cannot embrace this challenge all alone,
at least, not for long:

-Parker Palmer



We cannot embrace this challenge all alone, at least, not for long: **we need trustworthy relationships, tenacious communities of support**, if we are to sustain the journey toward an undivided life.

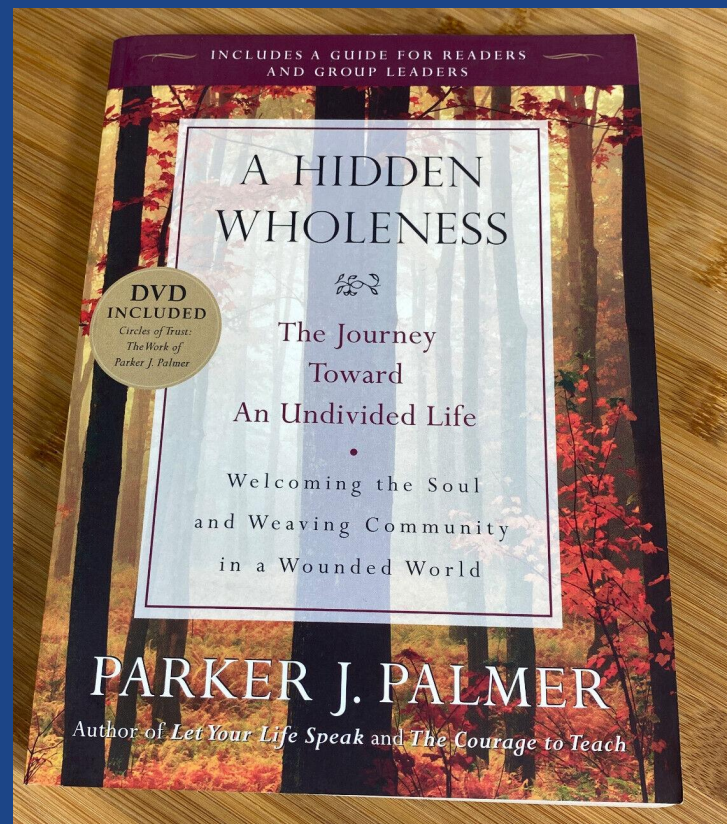
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We cannot embrace this challenge all alone, at least, not for long: **we need trustworthy relationships, tenacious communities of support**, if we are to sustain the journey toward an undivided life.

That journey has solitary passages, to be sure, and yet it is **simply too arduous to take without the assistance of others.**

-Parker Palmer

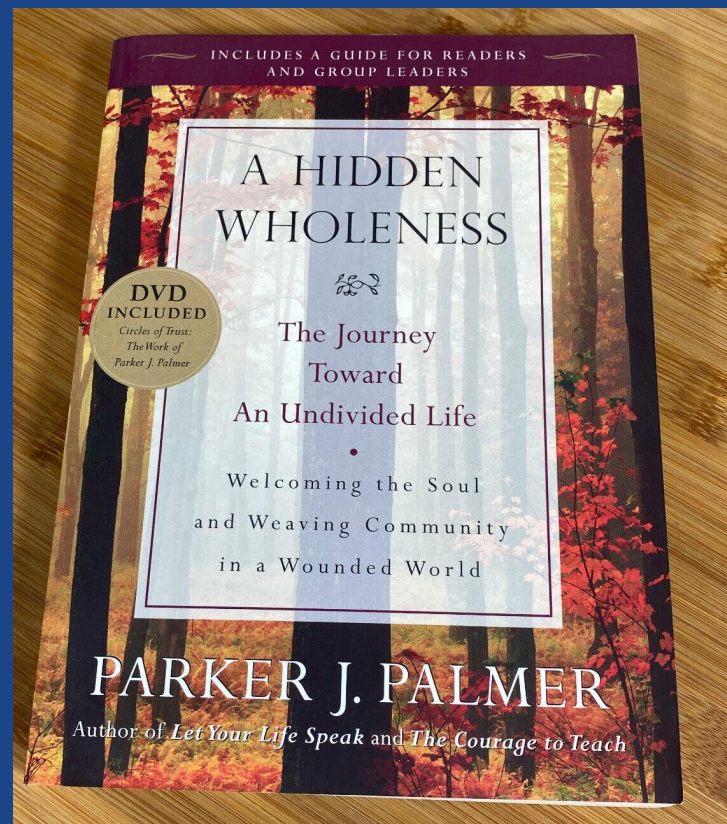


We cannot embrace this challenge all alone, at least, not for long: **we need trustworthy relationships, tenacious communities of support**, if we are to sustain the journey toward an undivided life.

That journey has solitary passages, to be sure, and yet it is **simply too arduous to take without the assistance of others**.

And because we have such a vast capacity for self-delusion, **we will inevitably get lost en route without correctives from outside of ourselves**.

-Parker Palmer



We need each other to help
us see what we cannot see
for ourselves.

The Imperfect and Unfinished Math Teacher

A Journey to Reclaim Our Professional Growth

The system won't do it for us. But we have each other.



Chase Orton *(And You!)*

Foreword by Steve Leinwand

CORWIN Mathematics

Beacons



Beacons

1. The flourishing we crave must come from the **inside out**.
2. Focus on and measure what you value—**human data**.
3. Seek **vantage**—particularly from the student perspective.
4. Build trustworthy **relationships** to help you see what you cannot see for yourself.



You are an author of this book—just the same as me—and I'm inviting you to share your story with us and the colleagues you work with.

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Even though you, like me, are *imperfect*, we have much we can learn from each about how we can stay *unfinished*.

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Even though you, like me, are **imperfect**, we have much we can learn from each about how we can stay **unfinished**.

And it's time we start thinking differently about how **we can help each other thrive at the work we do.**

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4. **Value the multiple perspectives** learners have to offer from their unique lived experiences.



A Book Study for Changing Your Culture of Professionalism

1. **Position teachers as capable** of directing their own professional growth, individually and collectively.
2. **Expand** teacher capacity for **professional flourishing**—enhance teacher identity and foster their sense of agency.
3. **Deepen relationships** as active partners in each other's professional growth.

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CORWIN Mathematics

The audio companion to *The Imperfect and Unfinished Math Teacher*: undercovercalculus.com/audiobook



The Audio Companion to the book...

The Imperfect and Unfinished Math Teacher

The audio companion to "The #ImperfectUnfinished Math..."

Chase Orton • Podcast

Public

6 episodes Last updated on Nov 6, 2023

Play all



An Invitation: Let's Help Each Other Thrive!

Chase Orton • 75 views • 8 months ago



Ep1: Position Ourselves as Capable #ImperfectUnfinished

Chase Orton • 70 views • 8 months ago



Ep2: Become a Story-Focused Math Teacher #ImperfectUnfinished

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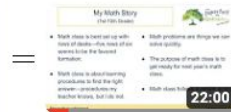
Ep3: Expand Our Potential For Flourishment #ImperfectUnfinished

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Email:

chase@undercovercalculus.com

Sign-up for my newsletter and receive a copy of today's slide deck and other free resources. School emails may not work.



Listen to the audio companion to my book:
chaseorton.com/audiobook



*Buy **The Imperfect and Unfinished Math Teacher**.*

Look for a discount code at corwin.com.

Which of these Beacons resonate the most with you?



1. The flourishing you crave must come from the **inside out**.
2. **Focus** on and measure what you value—**human data**.
3. Seek **vantage**—particularly from the student perspective.
4. Build trustworthy **relationships** to help you see what you cannot see for yourself.

Beacons

1. The flourishing we crave must come from the **inside out**.
2. Focus on and measure what you value—**human data**.
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What is something you used to believe about effective math teaching, but no longer do?

What did it take for you to change your mind?

What is something you used to believe about effective math teaching, but no longer do?

What did it take for you to change your mind?

How can we position ourselves to see what we need to see to change our minds sooner?

Sisu

Sisu

Having optimistic
resolve in the face of
insurmountable
obstacles.





We work in a top-down, standardized, **one-size-fits-all** system.

Headwinds

99%

INVISIBLE

EPISODE 226

On Average

99%
INVISIBLE

EPISODE 226

On Average



THE END OF AVERAGE

HOW WE SUCCEED
in a World That Values Sameness

TODD ROSE

99%
INVISIBLE

EPISODE 226

On Average



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Human beings don't line up perfectly.

99%
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EPISODE 226

On Average



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HOW WE SUCCEED
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TODD ROSE

Human beings don't line up perfectly.

There is no average learner. They have strengths and weaknesses. They all do. Even geniuses do.

One-Size-Fits-All



One-Size-Fits-Each



A black and white photograph of a classroom. In the foreground, several wooden desks and chairs are visible, arranged in rows. The desks are made of light-colored wood and have a simple, functional design. The chairs are also wooden, with a curved backrest. In the background, there is a large, dark chalkboard. To the left of the chalkboard, there is a window with a sign that says "31". The wall is made of vertical wooden planks. The overall atmosphere is quiet and somewhat somber.

How are we positioning our learners?

How are we positioning our learners?

One-Size-Fits-All



How are we positioning our learners?

One-Size-Fits-All



One-Size-Fits-Each





Jan. Fév. Mars Avril mai
01 02 03 04 05
juin juill. août Sept.
06 07 08 09
oct. nov. déc.
10 11 12
exemple 06 03 96
jour mois année

DUPONT Exercices
CM1
ESSAIS
3
4 x

40 F (2 heures pour l'année)
R.E. CM1 les bouillottes de la nuit
98 - le petit Nicolas ou le grand
jeu - CABOT, CASSIOPE de D. Proust
- lecture, poésie
- Géométrie
- E.R.S.
- Éducation civique
- Arts plastiques





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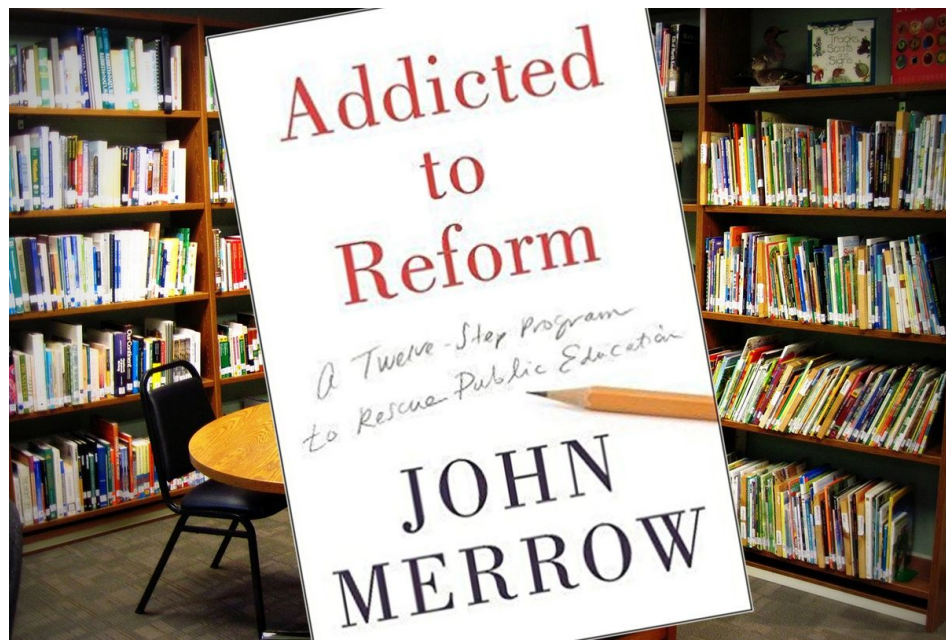




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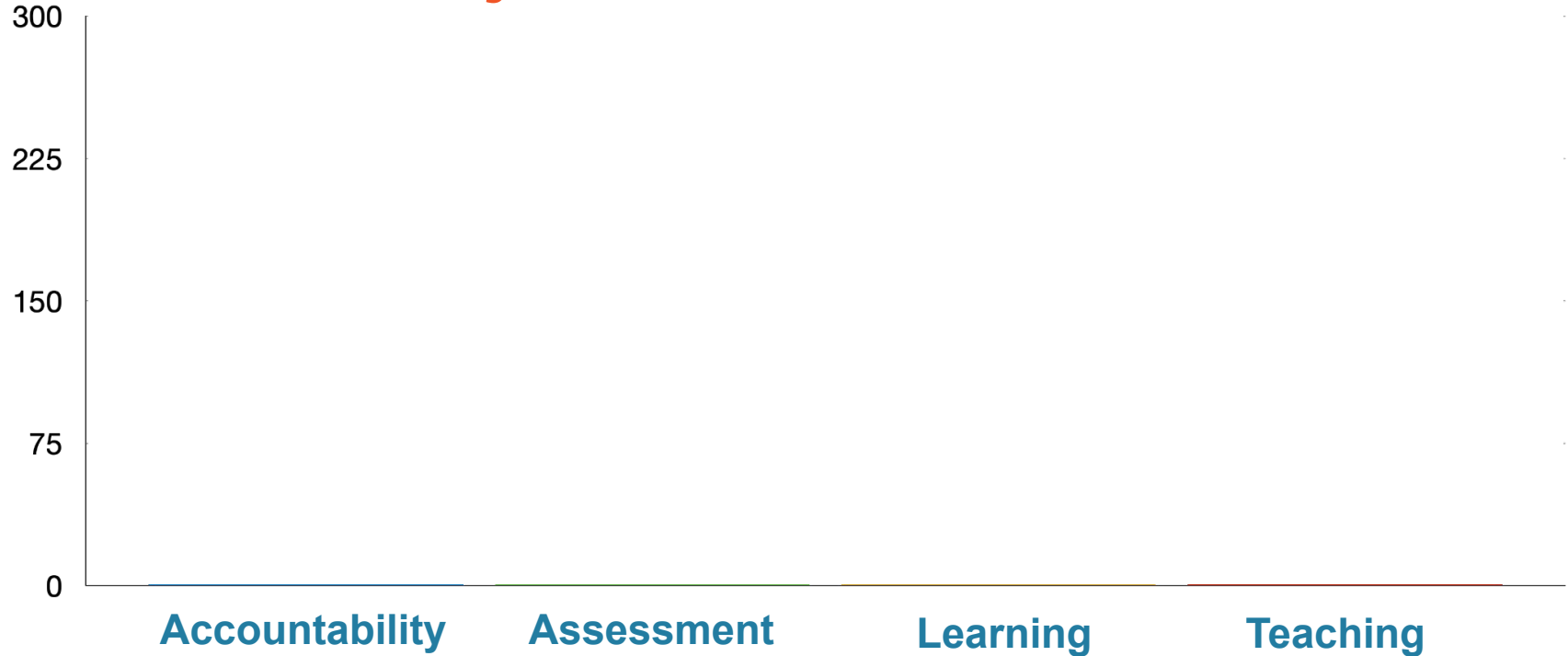
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Headwinds



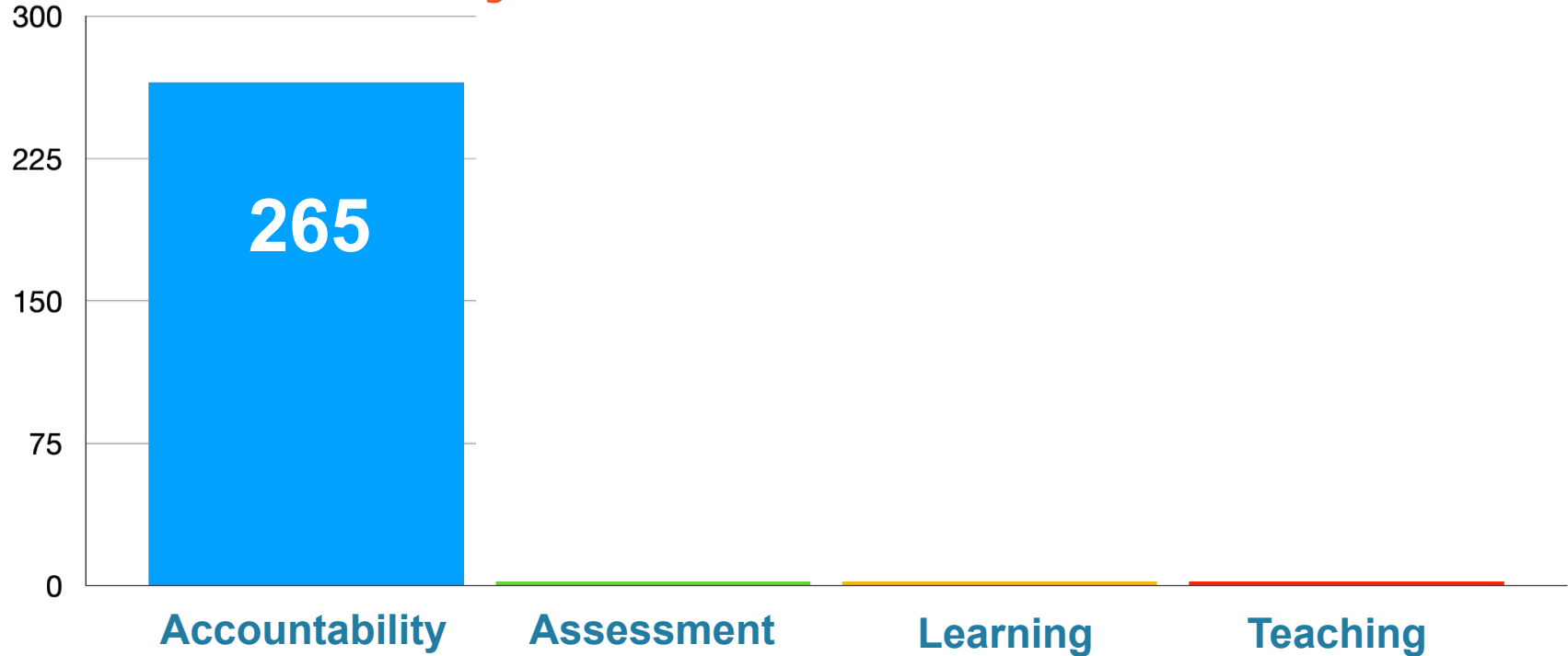
“We value what is measured instead of measuring what we value.”

Word Count in Amendment to 2015's *Every Student Succeeds Act*



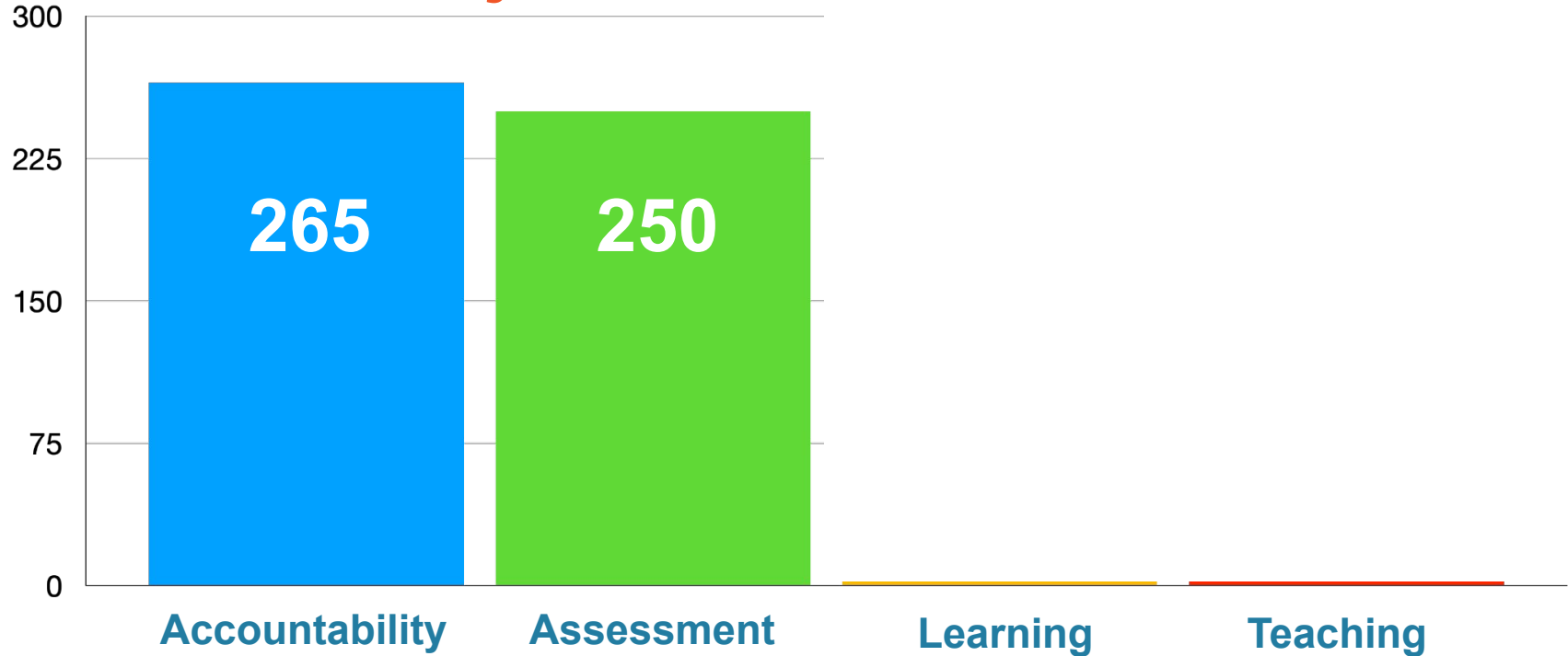
More info: Drew Perkins (@dperkinsed) "TeachThought Podcast," Episode 53

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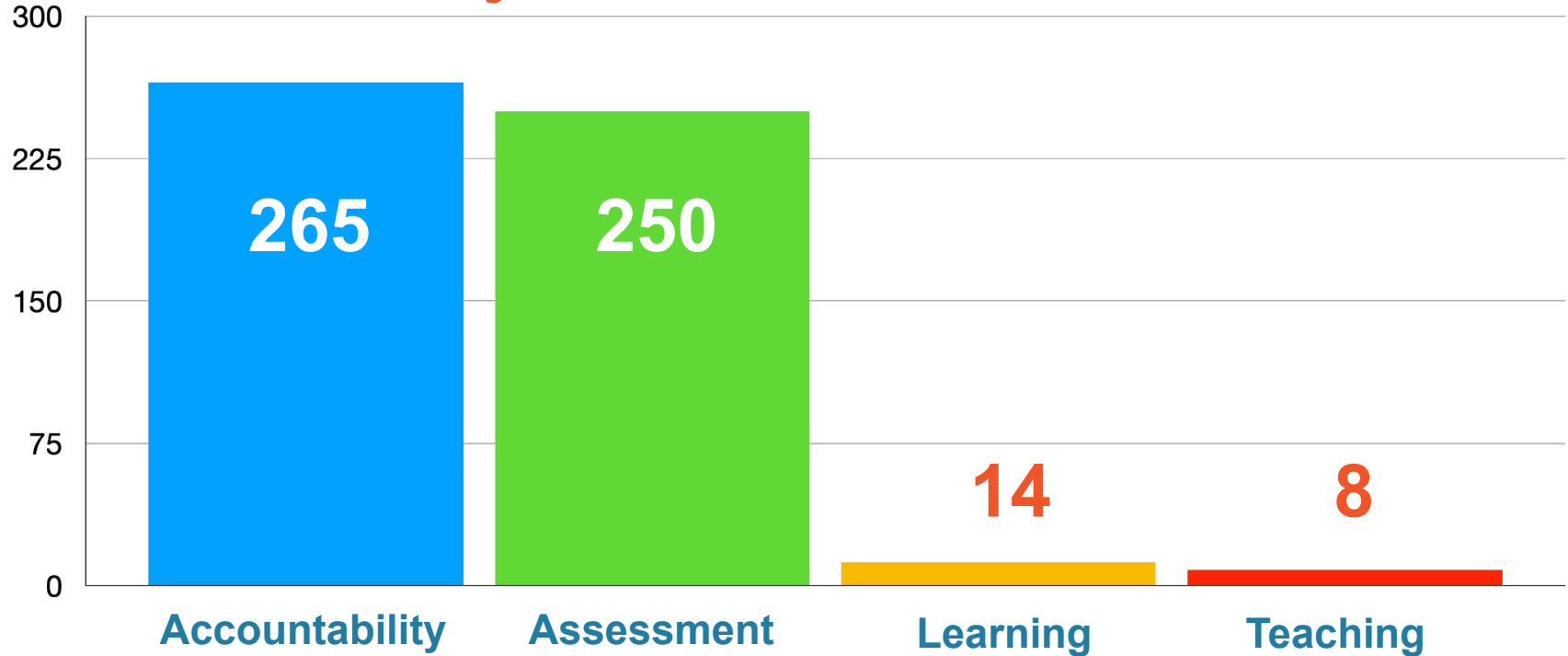
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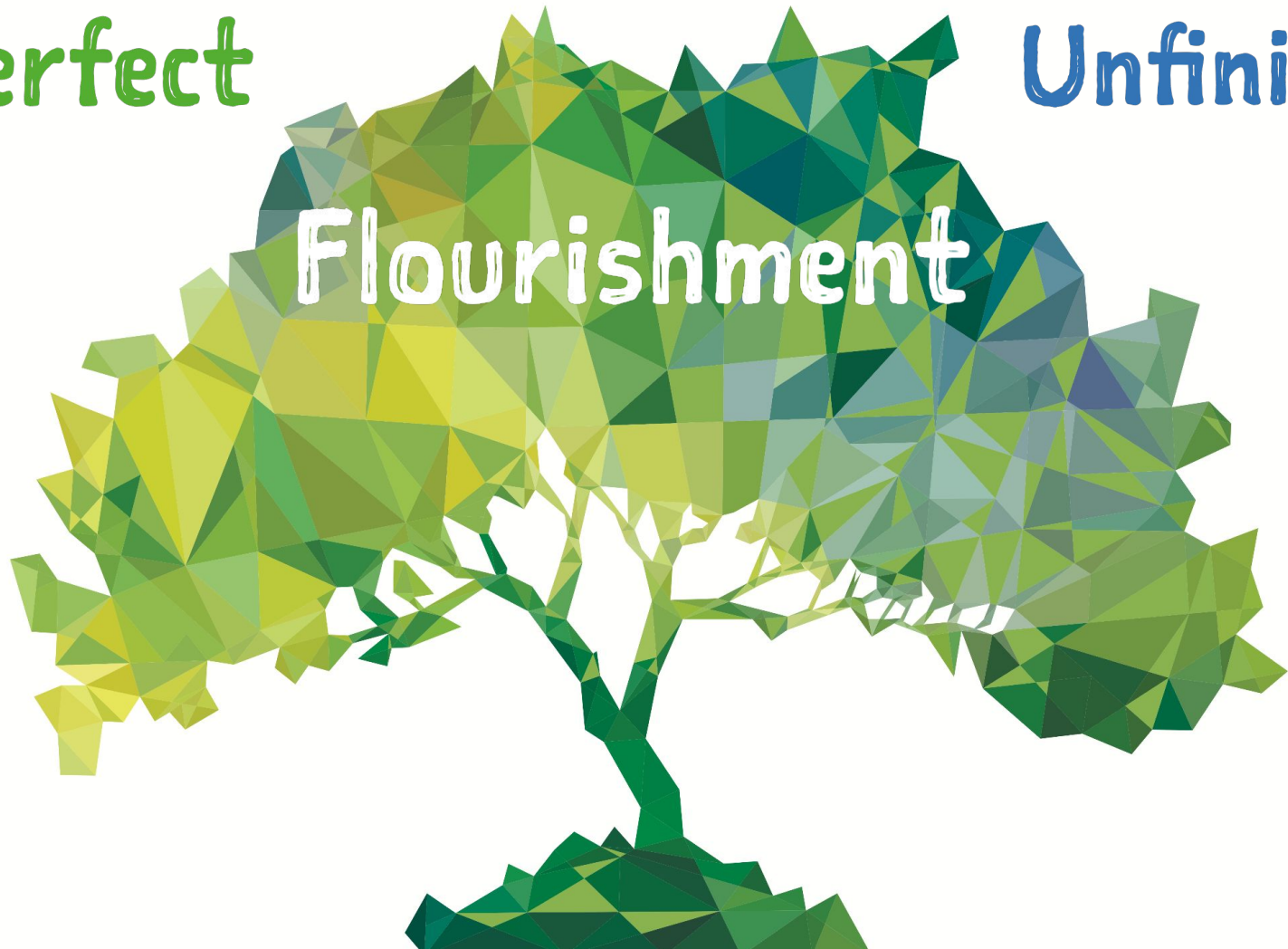
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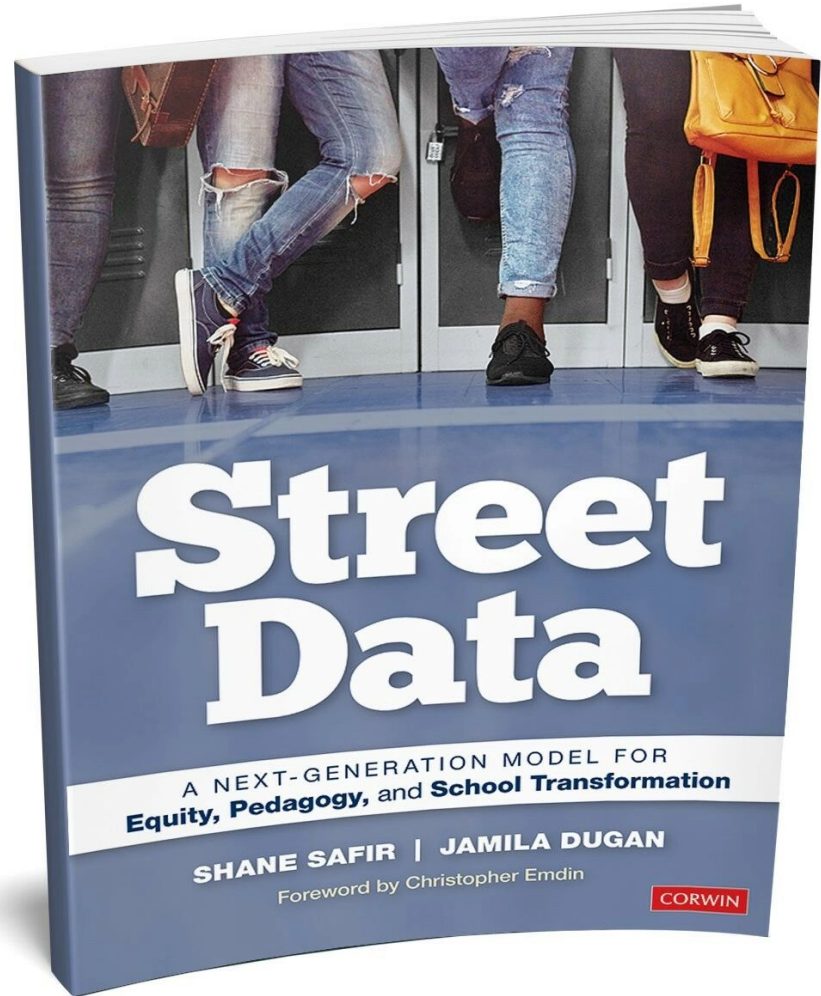
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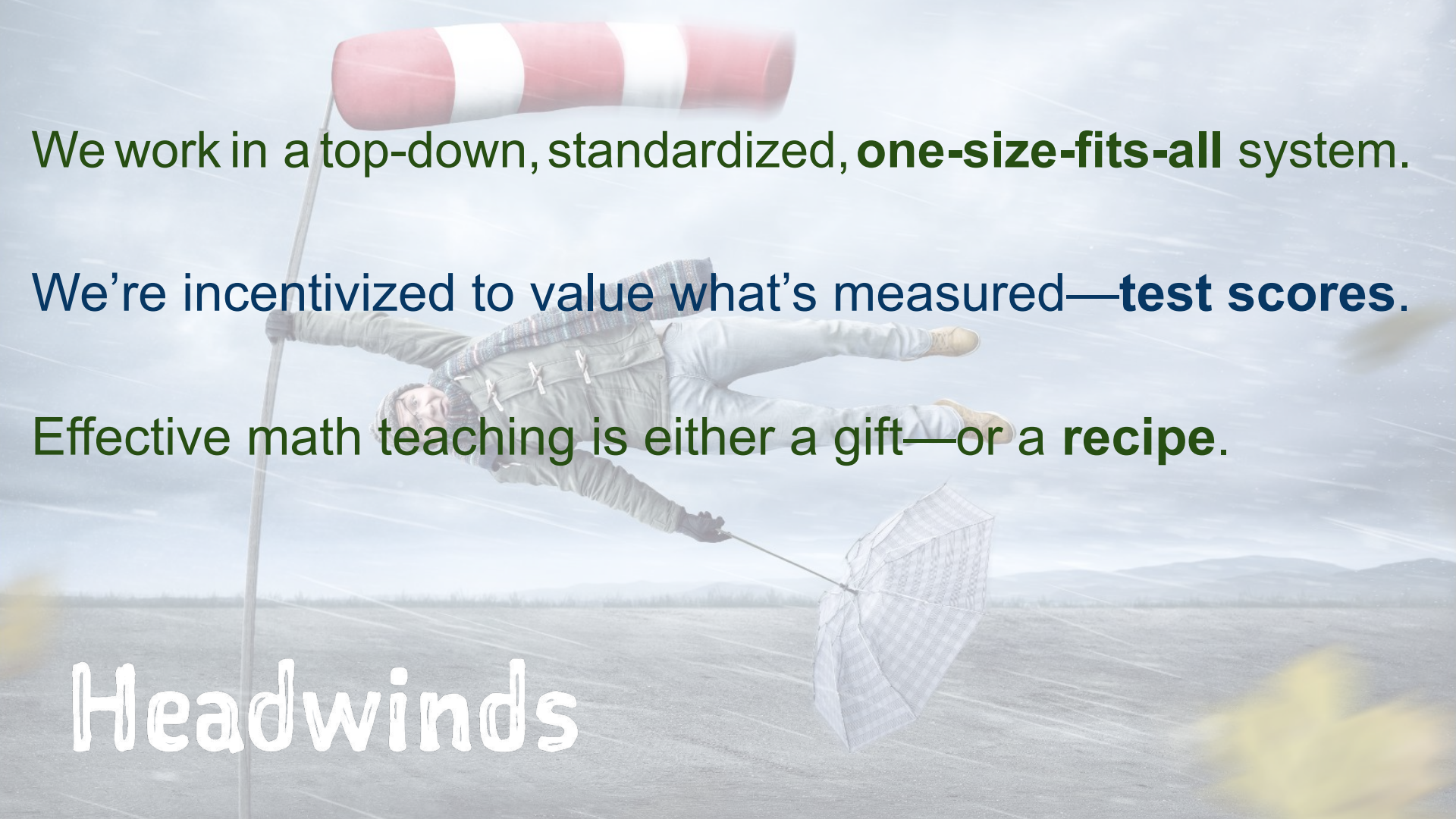
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Unfinished



Current testing practices dehumanize young people and teachers while leading us further and further from educational equity.





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Effective math teaching is either a gift—or a **recipe**.

Headwinds





Flourishment



Turn and Talk

How are these Headwinds prevalent in your professional landscape?

1. We work in a top-down, standardized, **one-size-fits-all** system.
2. We're incentivized to value what's measured—**test scores**.
3. Effective math teaching is either a gift—or a **recipe**.
4. We work in a **system of silos**.

Beacons



Beacons

1. The flourishing we crave must come from the **inside out**.



A grassroots journey to **disrupt the status quo** of professional development from the “inside-out” so we can **reclaim control over our teaching legacy** and the math stories we leave behind.

The Imperfect and Unfinished Math Teacher

A Journey to Reclaim Our Professional Growth

The system won't do it for us. But we have each other.



Chase Orton (*And You!*)

Foreword by Steve Leinwand

CORWIN Mathematics



Serving students well is an act of critical resistance. It is political. And therefore it will not yield the normal rewards provided when we are simply perpetuating the status quo.

— bell hooks,
Teaching Community: A Pedagogy of Hope



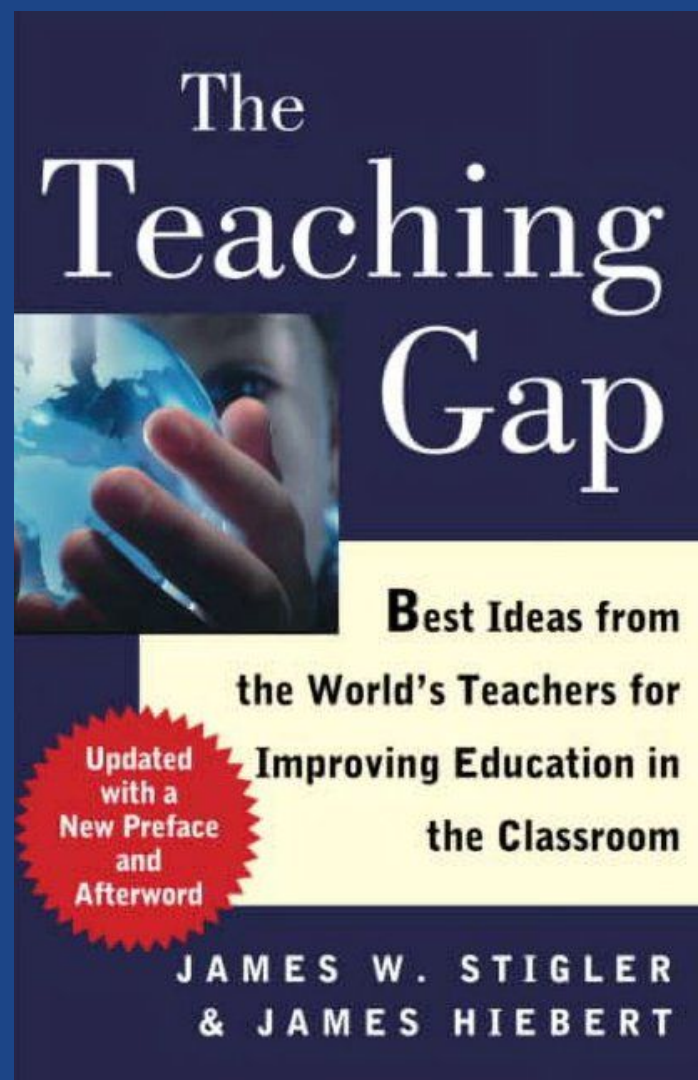
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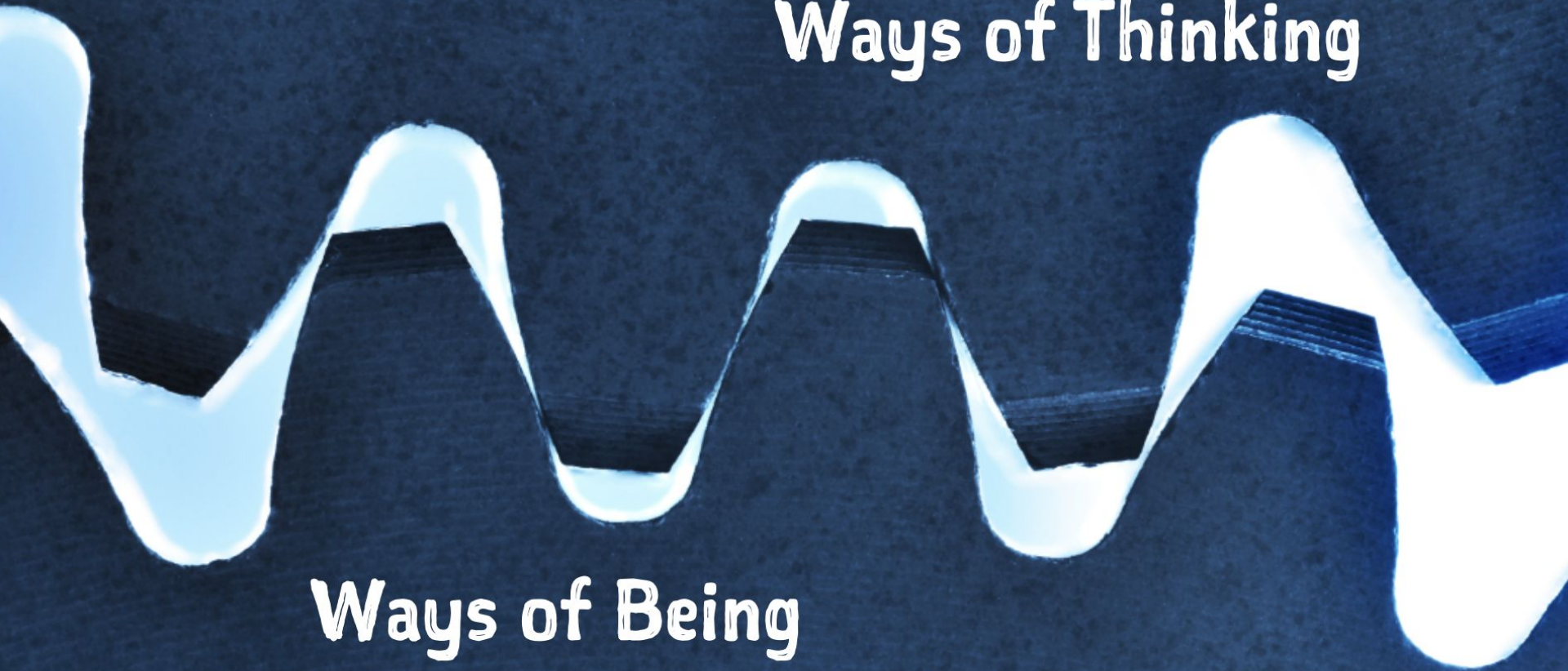
Teachers who care, who serve their students, are usually at odds with the environments wherein they teach. **More often than not, we work in institutions where knowledge has been structured to reinforce dominator culture.**

— bell hooks,
Teaching Community: A Pedagogy of Hope



The hard work of improving teaching in the United States can't succeed without **changes in the culture of teacher learning.**





Ways of Thinking

Ways of Being

It's a great day of teaching when I see/hear/feel
my students _____ in math class.

why

reason,

purpose

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Understanding
Mathematical
Content

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Understanding
Mathematical
Content



Disposition as
Mathematical
Thinkers

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Understanding
Mathematical
Content



Perseverance
Collaboration
Risk-taking

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Understanding
Mathematical
Content



Perseverance Joy Wonder
Collaboration Curiosity
Risk-taking Laughter
Enthusiasm A-ha moments
Teaching each other Empathy
Groaning when class is over

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Understanding
Mathematical
Content



Human Data

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Standardized
Test Data



Human Data

On the first day of school, a student will walk into your classroom convinced that they are a terrible student. That they suck at math. That they are an awful writer. That science or social studies is too hard.

We don't get to choose the story that students tell themselves as they walk into our rooms in August. The amazing thing about teaching though, is we get to help them rewrite that story by the time they leave our classrooms in June.

Dan Lower, History for Humans, Facebook post

It's a great day of teaching when I see/hear/feel
my students _____ in math class.



Standardized
Test Data

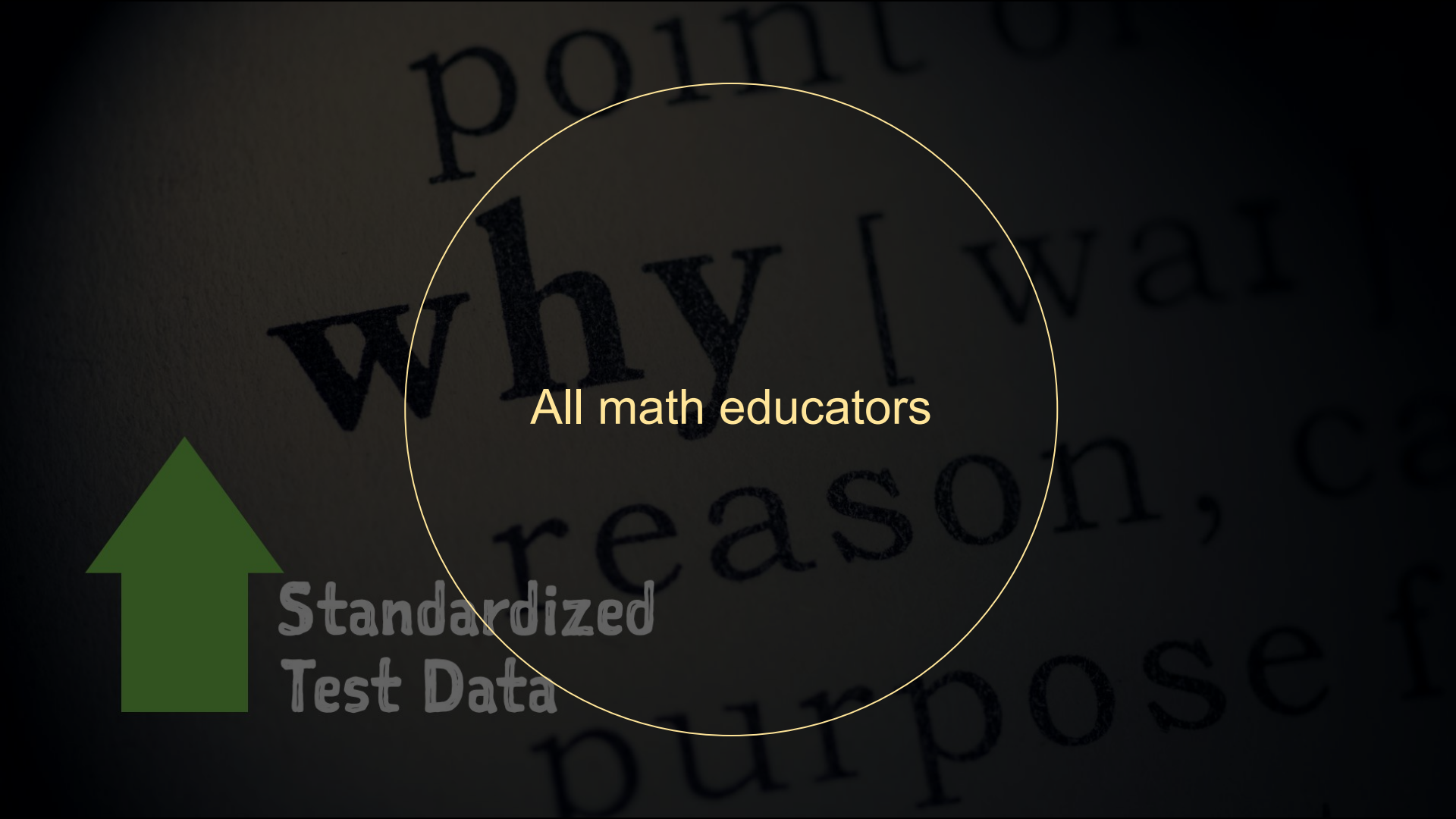


Math Story



**Standardized
Test Data**

point of
why [wait]
reason, ca
purpose f



All math educators



Standardized
Test Data

What do we all have in
common when it comes to
our professional purpose?



Standardized
Test Data

A diagram on a dark background with faint, large text in the background. It features five yellow-outlined circles and a green arrow. The circles are labeled 'K-5', '6-8', '9-12', 'Admin', and 'Special Ed'. A green arrow points upwards from the bottom left towards the 'K-5' circle. The text 'Standardized Test Data' is written in a light gray font at the bottom left.

K-5

6-8

9-12

“Admin”

Special
Ed

Standardized
Test Data

16:20

5G 30



Schedule



SCHEDULE



SESSIONS FOR PK-2



SESSIONS FOR 3-5



SESSIONS FOR 6-8



SESSIONS FOR 9-12



Stand
Test

K-5

6-8

Advanced
Math

A.P.

Algebra 2

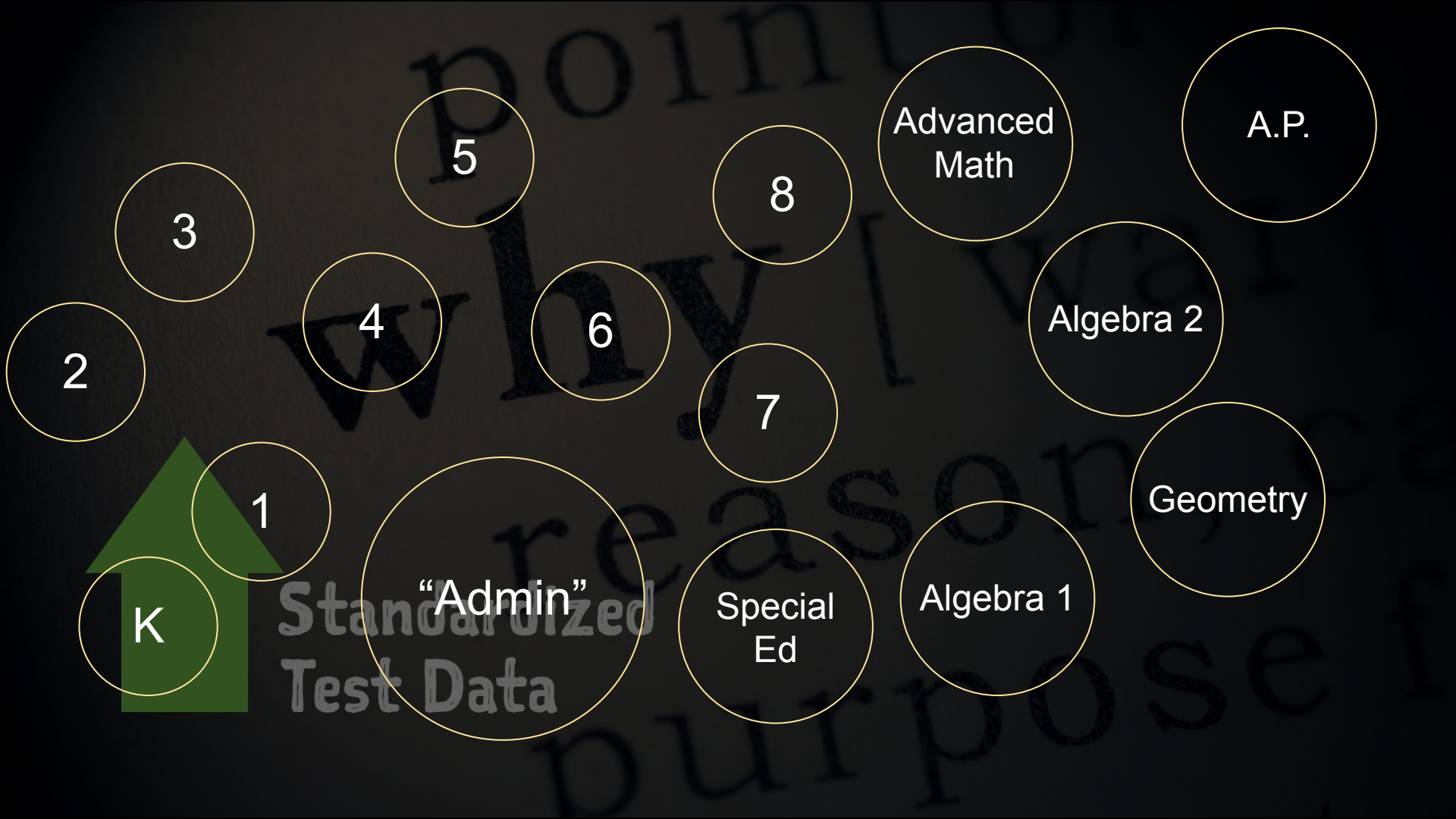
Geometry

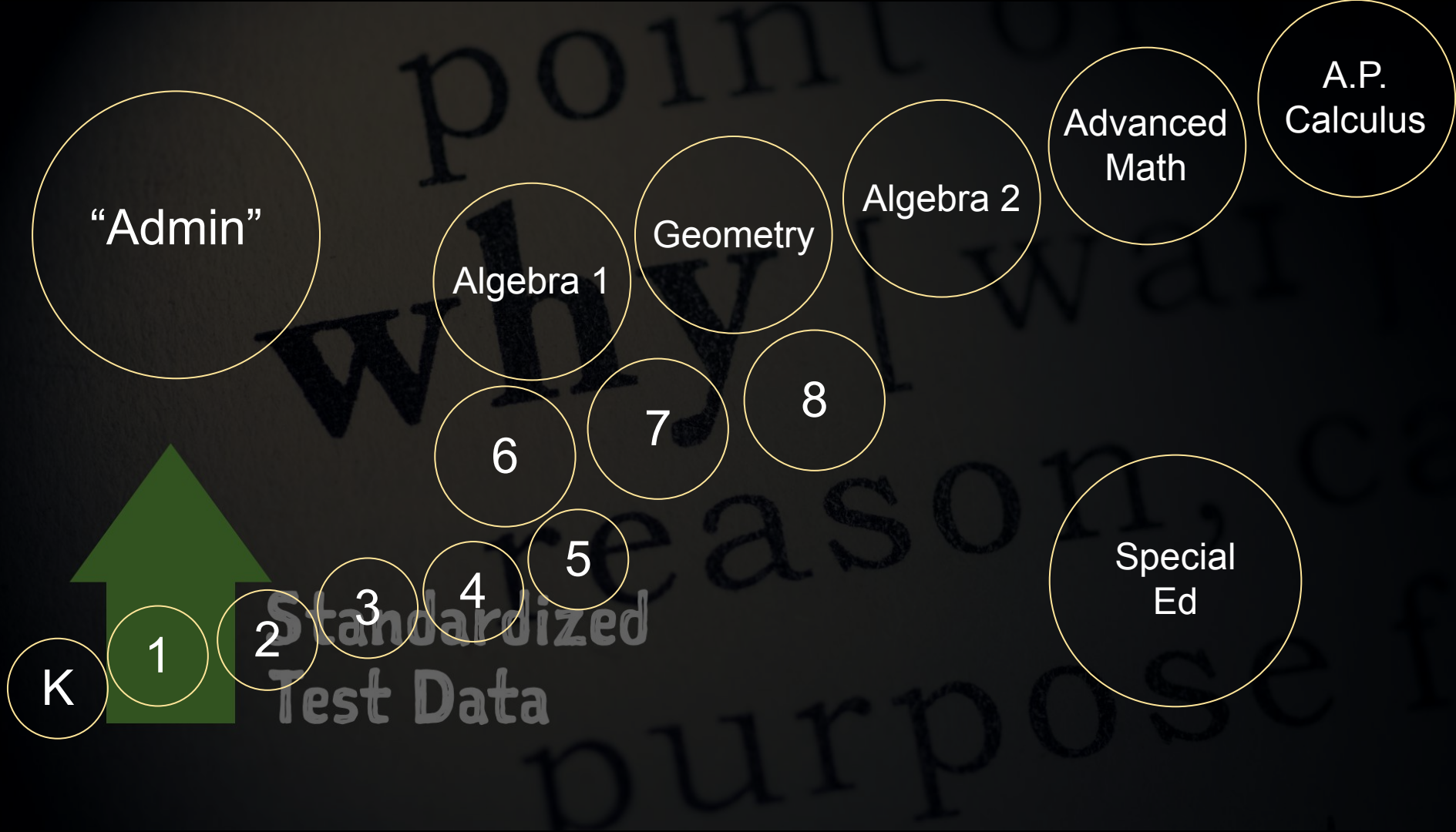
“Admin”

Special
Ed

Algebra 1

Standardized
Test Data





What do we all have in
common when it comes to
our professional purpose?



Math Story

We all have the same
professional purpose—
to keep the math stories of
our students healthy and
unfinished.



Math Story

Beacons

1. The flourishing we crave must come from the **inside out**.



Make the shift:
Less Content-focused → **More Story-focused**

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See our math classrooms **less** as a place where students learn math content and **more** as a place where students author their math story.

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Identify ourselves **less** as people who teach mathematics content to students so we can see ourselves **more** as cultural stewards (caretakers) of the math stories students are authoring in our classrooms.

Make the shift:

Less Content-focused → More Story-focused

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Identify ourselves **less** as people who teach mathematics content to students so we can see ourselves **more** as cultural stewards (caretakers) of the math stories students are authoring in our classrooms.

Measure ourselves **less** by traditional forms of data and **more** by the quality of the human data that tells us our students are engaged, thinking and thriving.

Beacons

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Beacons

1. The flourishing we crave must come from the **inside out**.
2. **Focus** on and measure what you value—**human data**.
3. Seek **vantage**—particularly from the student perspective.
4. Build trustworthy **relationships** to help you see what you cannot see for yourself.





How did Timur Garayev Get That Good?

At age 29, Timur played 48 games of chess against 48 different players. 35 wins, 7 draws, 6 losses.

He played all these games simultaneously. Started at the same time. The longest lasted 19 hours.

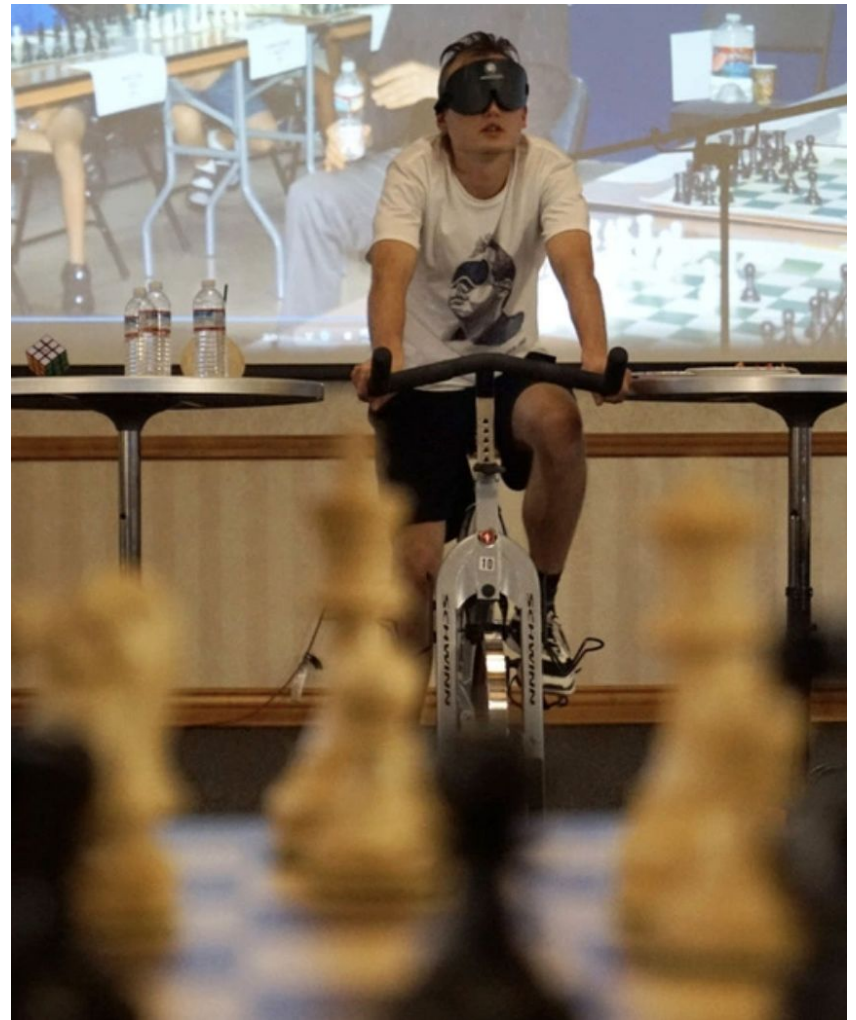
He played all of these games blindfolded.





Board number 8 – H5 H4

Random Fun Fact



Random Fun Fact #2



How did Timur Garayev Get That Good?

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PEAK

SECRETS FROM
THE NEW SCIENCE
OF EXPERTISE

Anders Ericsson
and Robert Pool

FREAKONOMICS RADIO NETWORK



STEPHEN J. DUBNER

FOLLOW THIS SHOW

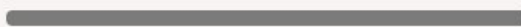
EPISODE 244

How to Become Great at Just About Anything

What if the thing we call “talent” is grotesquely overrated? And what if deliberate practice is the secret to excellence? Those are the claims of the research psychologist Anders Ericsson, who has been studying the science of expertise for decades. He tells us everything he’s learned.



00:00



51:51



Apr 27, 2016

By **Stephen J. Dubner**

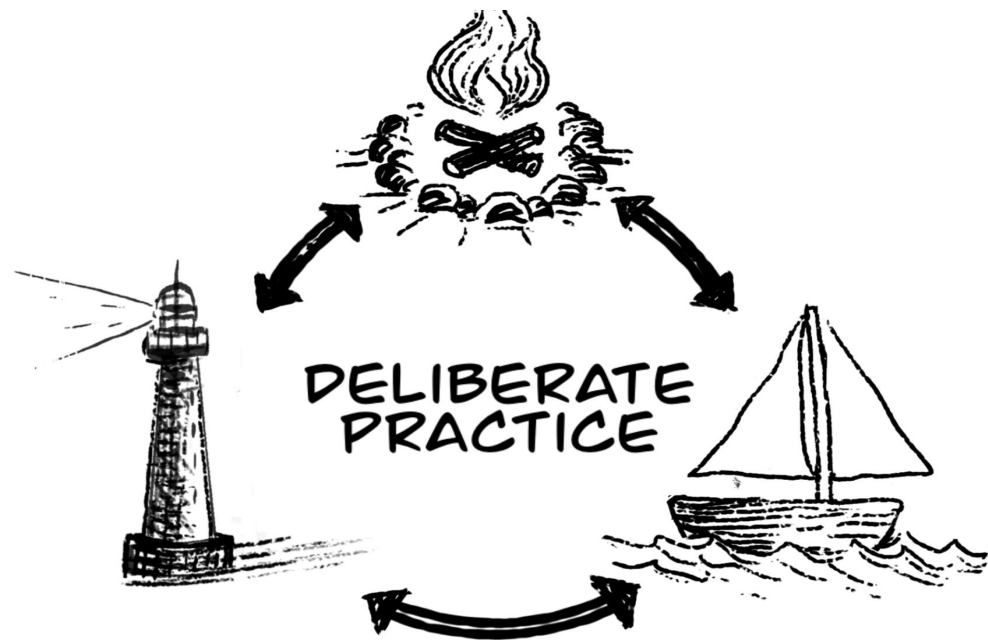
Produced by: **Greg Rosalsky**



Comments

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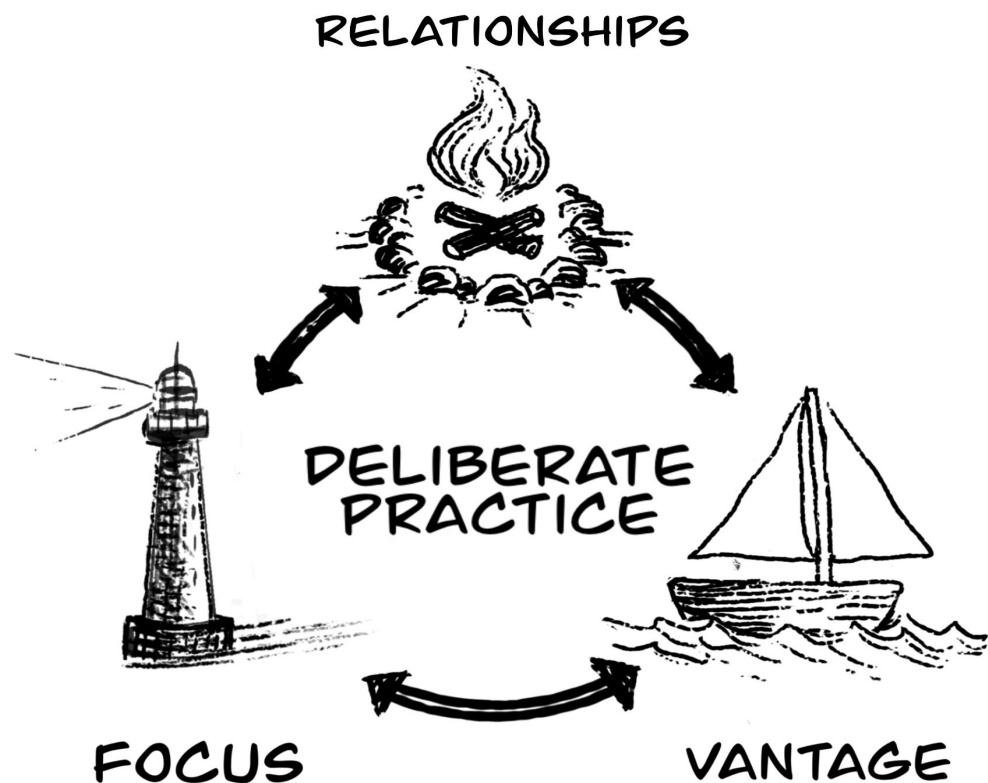




PEAK

SECRETS FROM
THE NEW SCIENCE
OF EXPERTISE

Anders Ericsson
and Robert Pool



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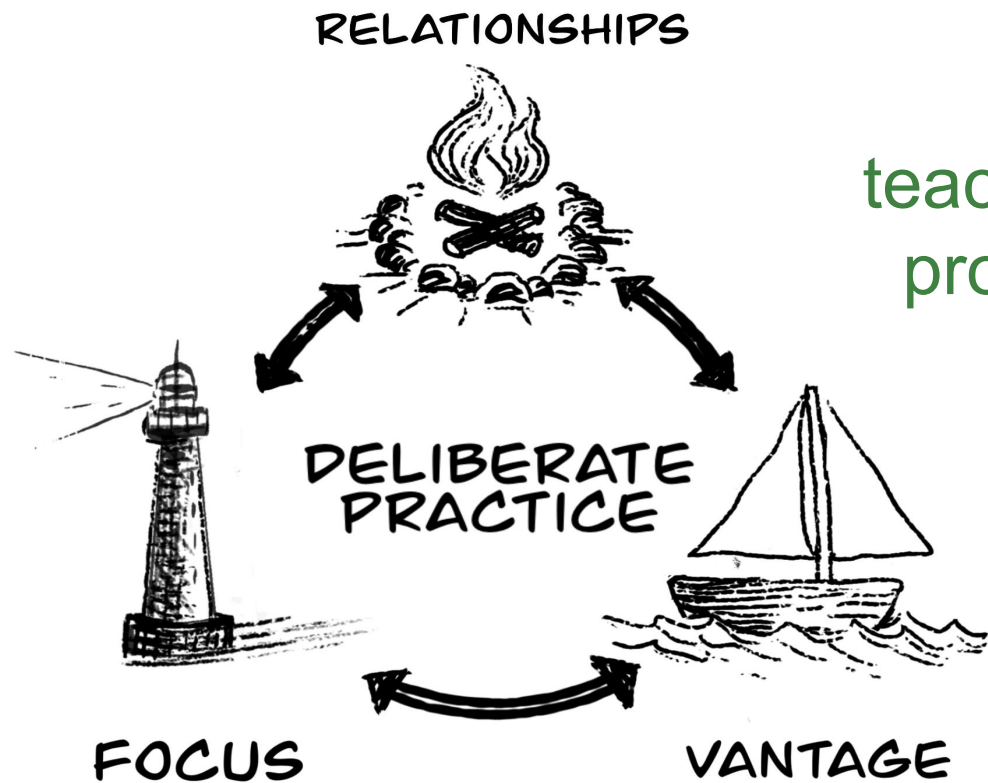
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Chase Orton *(And You!)*

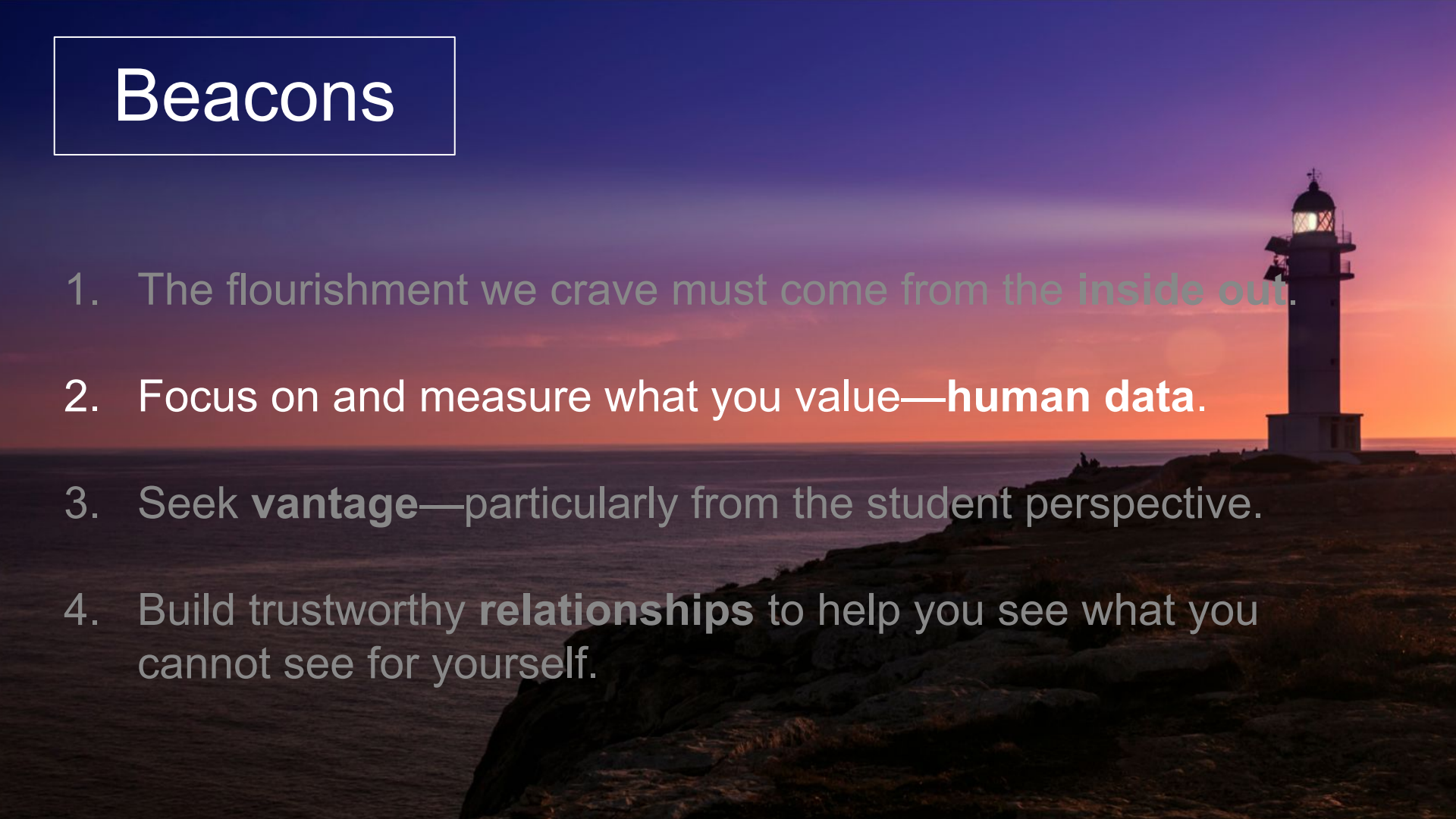
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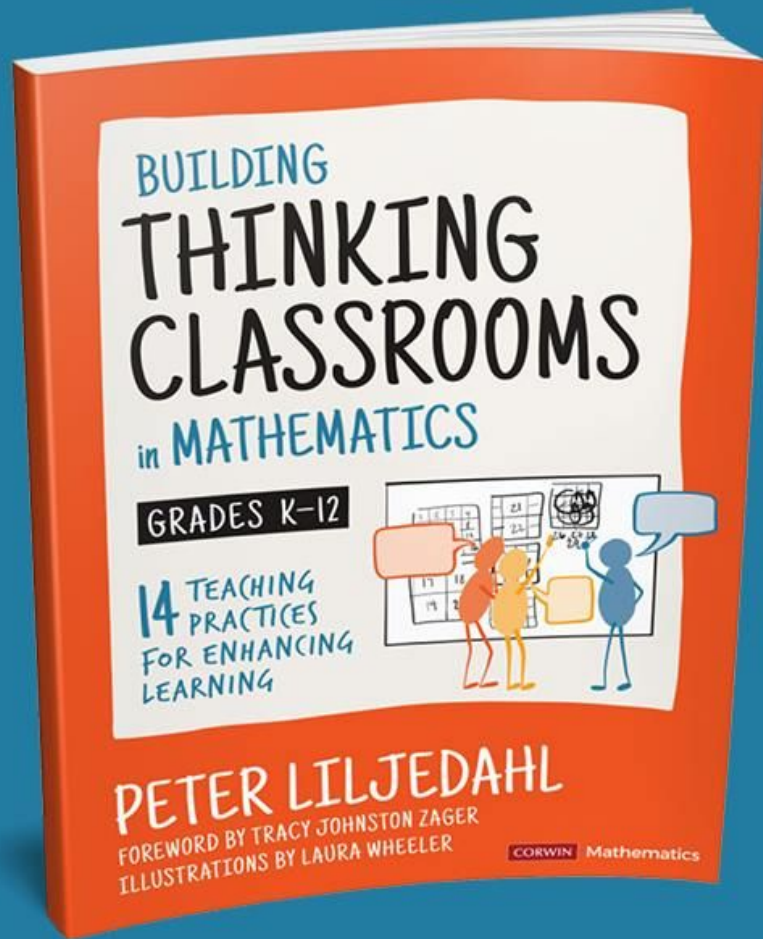
CORWIN Mathematics



A sustainable,
teacher-centered,
teacher-directed approach to
professional development.

Beacons

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- 
- A lighthouse stands on a rocky cliff overlooking the ocean at sunset. The sky is a mix of purple, blue, and orange, with the sun low on the horizon. The lighthouse is white with a dark top section and a glowing light. The foreground shows dark, jagged rocks.



“When we evaluate our students, they evaluate us.

They don’t listen to what we say, they listen to what we do.”

		
• closed to others' ideas • disrespectful of others • actively excluding • hogging the marker • discouraging		• open to others' ideas • respectful of others • actively inclusive • sharing the marker • encouraging

Figure 12.2 Collaboration rubric.

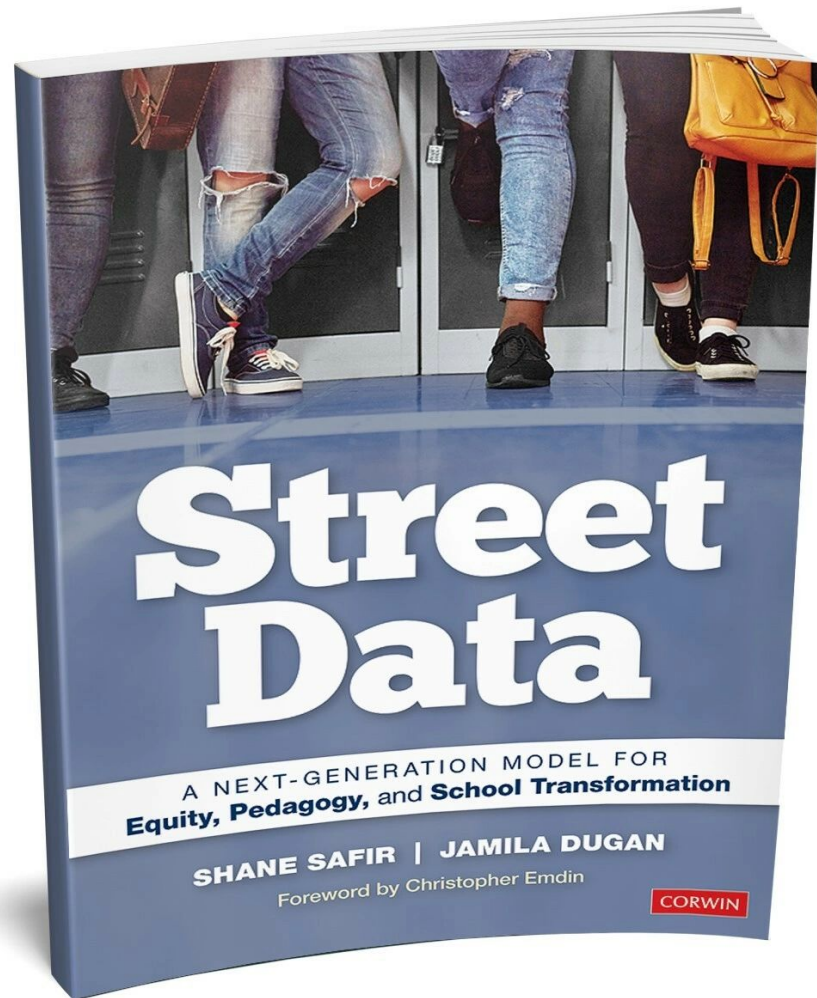
		
• closed to others' ideas • disrespectful of others • actively excluding • hogging the marker • discouraging		• open to others' ideas • respectful of others • actively inclusive • sharing the marker • encouraging

Figure 12.5 Highlighted collaboration rubric with language in two end columns.

	
 did not listen	 listened well
 did not share	 shared
 argued	 took turns talking
 worked alone	 worked together
 unhappy group	 happy group

Figure 12.3: K-1 collaboration rubric.

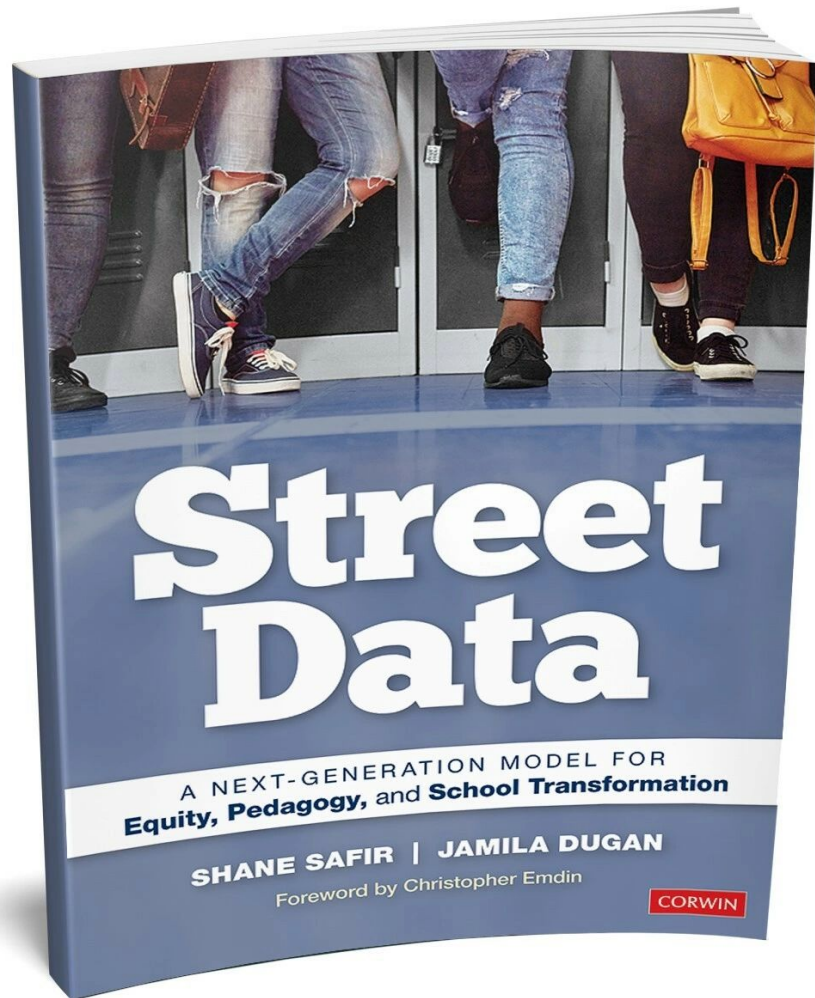
*“At the heart of the book lies an existential question: **Why do we rely on currency forms of data, and what would happen if we simply stopped...and embraced a new model?**”*



*“At the heart of the book lies an existential question: **Why do we rely on currency forms of data, and what would happen if we simply stopped...and embraced a new model?**”*

To that end, we offer you three beliefs to guide your journey:

- 1. Data can be humanizing.*
- 2. Data can be liberatory.*
- 3. Data can be healing.”*



Equity Actions

1. **Position each learner as capable** of directing their own learning.
2. **Enhance identities** of each learner in ways that **foster their sense of agency**.
3. **Elevate each learner's voices** in a culture of **shared authority** shared.
4. **Value the multiple perspectives** learners have to offer from their unique lived experiences.



It's not what you tell them—it's
what you show them.

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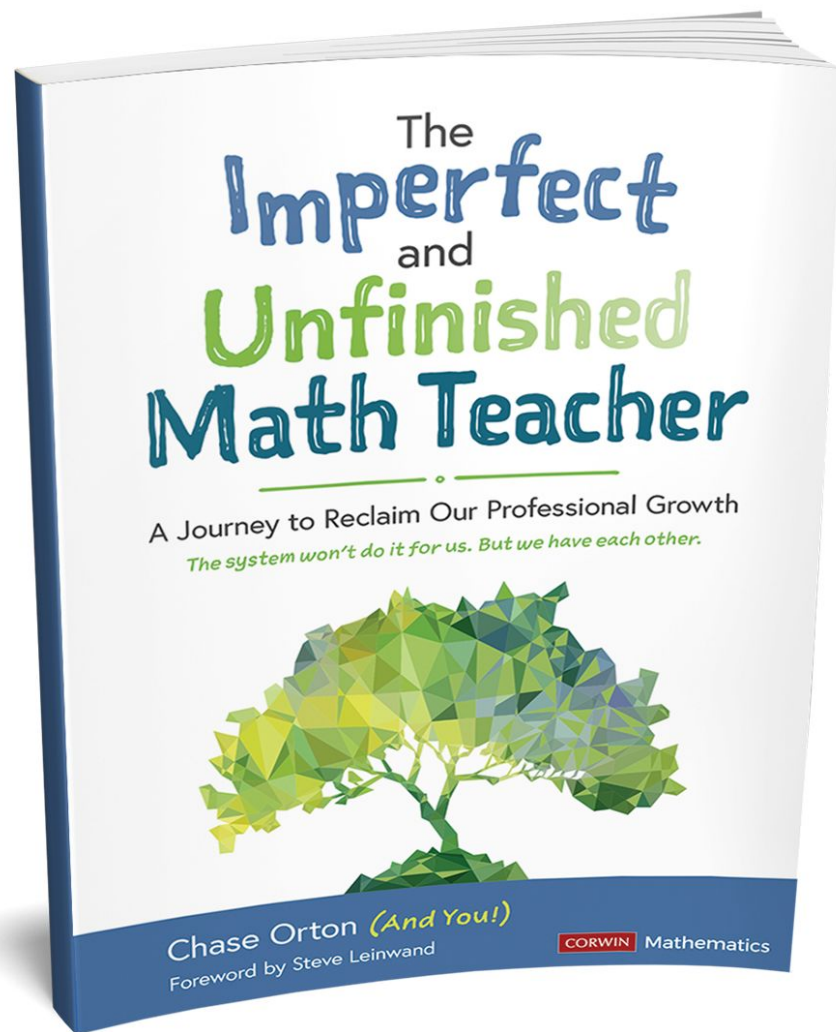


Chase Orton *(And You!)*

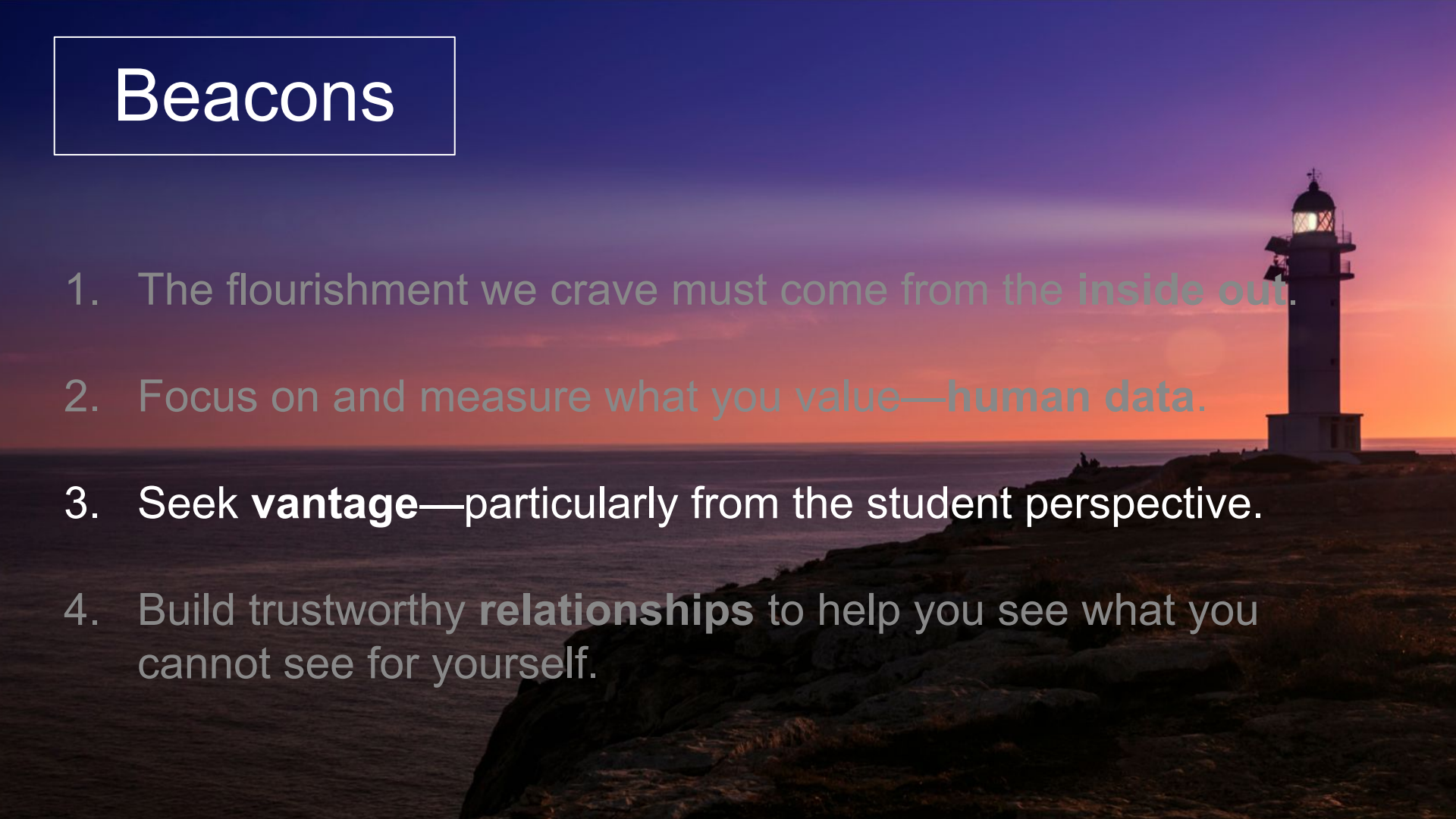
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Our effectiveness will always be limited by our ability to be authentic because children are exceptional at detecting, sniffing out, and calling out inauthenticity, and adolescents loathe it.



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Let's Read!

chaseorton.com/lillian

"Lillian's stuck, but she doesn't see it yet."

Why is Lillian stuck? What does she need to get unstuck?



Look Through the Window Together

Why is Lillian stuck?

What does she need to do to get unstuck?

What would it take for her to change her mind?

You have to get out of your culture in order to see it!

-Dr Pam Seda









Our mental models determine what we see. In any new experience, **most people are drawn to take in and remember only the information that reinforces their existing mental models**

-Peter Senge

A FIFTH
DISCIPLINE
Resource

WITH
MORE THAN
100 PAGES OF
NEW MATERIAL

SCHOOLS
THAT
LEARN
UPDATED & REVISED

*A Fifth Discipline Fieldbook for
Educators, Parents, and Everyone
Who Cares About Education*

PETER SENGE

Nelda Cambron-McCabe ■ Timothy Lucas
Bryan Smith ■ Janis Dutton ■ Art Kleiner

Our mental models determine what we see. In any new experience, **most people are drawn to take in and remember only the information that reinforces their existing mental models**

Because **mental models are usually tacit**, existing below the level of awareness, they are often untested and unexamined. **They are generally invisible to us—until we look for them.**

-Peter Senge

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We are all wrong about something. And we will be stuck until we see it for ourselves.

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CORWIN Mathematics



An Invitation

Let's teach math together.









