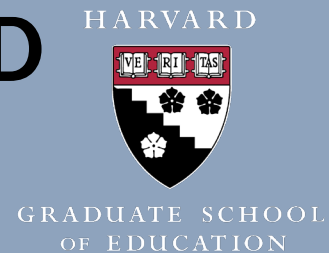


The Science and Practice of Early Literacy in Today's Schools and Classrooms

Nonie K. Lesaux, PhD

August 17, 2023
Albany, NY



Today's Session



2. What does *Science of Reading* Mean for Early Literacy Efforts?

Four key ideas to inform early literacy work



4. How does Effective Literacy Instruction Promote Child Development?

What We're Learning from Brain Science & Social-Emotional Research

1. What is Literacy for Today and Tomorrow?

Knowledge, Skills + Competencies for all Learners



3. What are the Core Elements of Effective Early Literacy Instruction?

Building Literacy for Today & Tomorrow in all Classrooms



Today's Session



01

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03

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02



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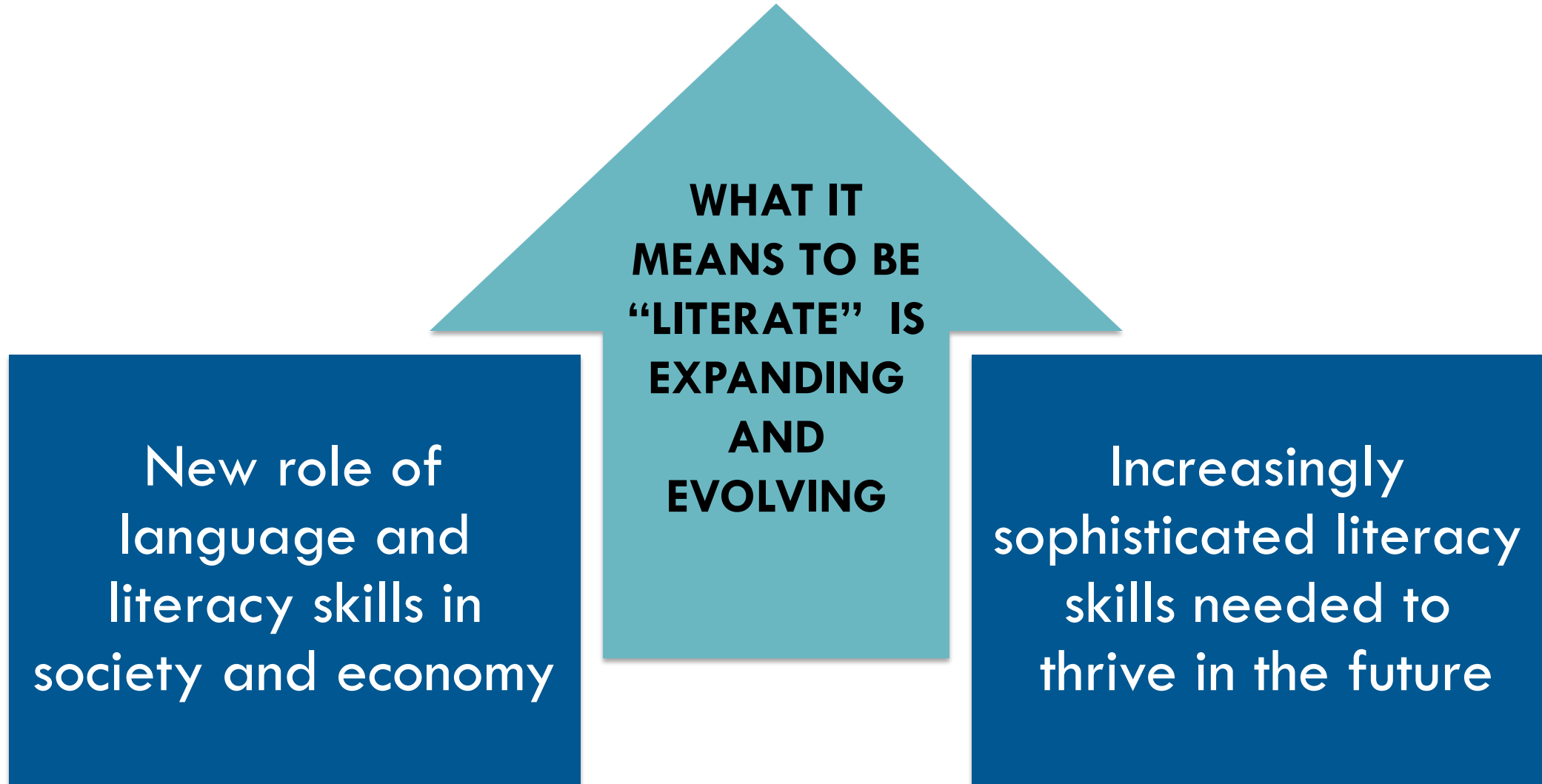
Building Literacy for Today & Tomorrow in all Classrooms



04

Literacy for Today & Tomorrow

Knowledge, Skills & Competencies for A New Era



Literacy for Today & Tomorrow

Knowledge, Skills & Competencies for A New Era

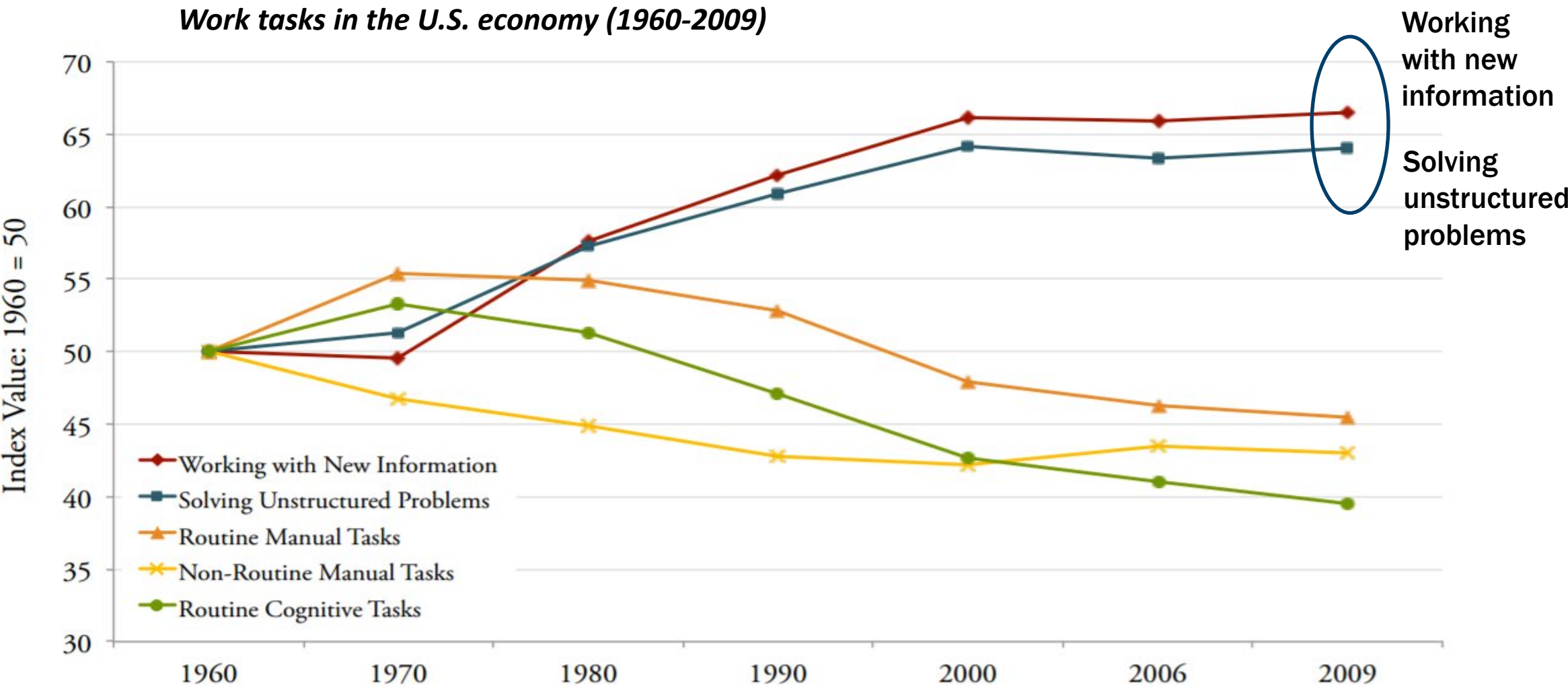


Changing Demands of
Workforce Participation
in the 21st Century

Through technological advancements, the literacy skills necessary for students' success in work and life have been redefined

Literacy for Today & Tomorrow

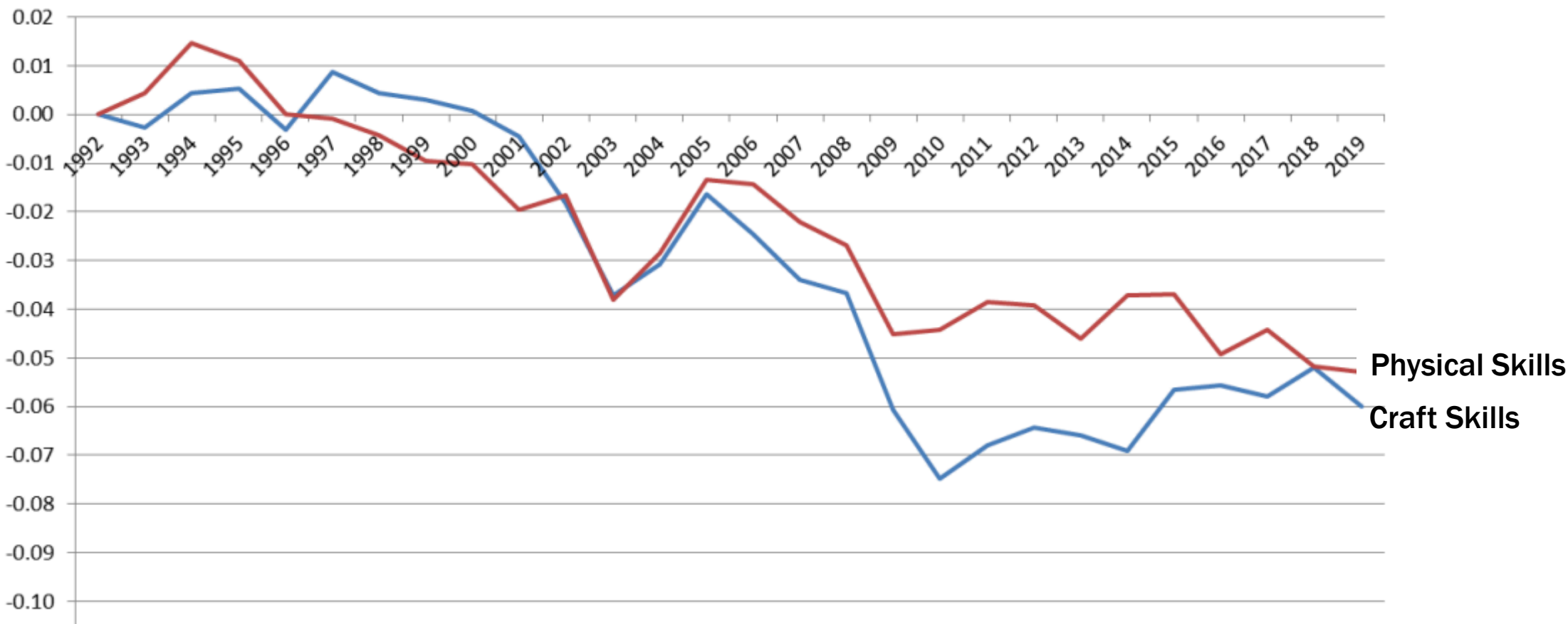
Knowledge, Skills & Competencies for A New Era



Literacy for Today & Tomorrow

Knowledge, Skills & Competencies for A New Era

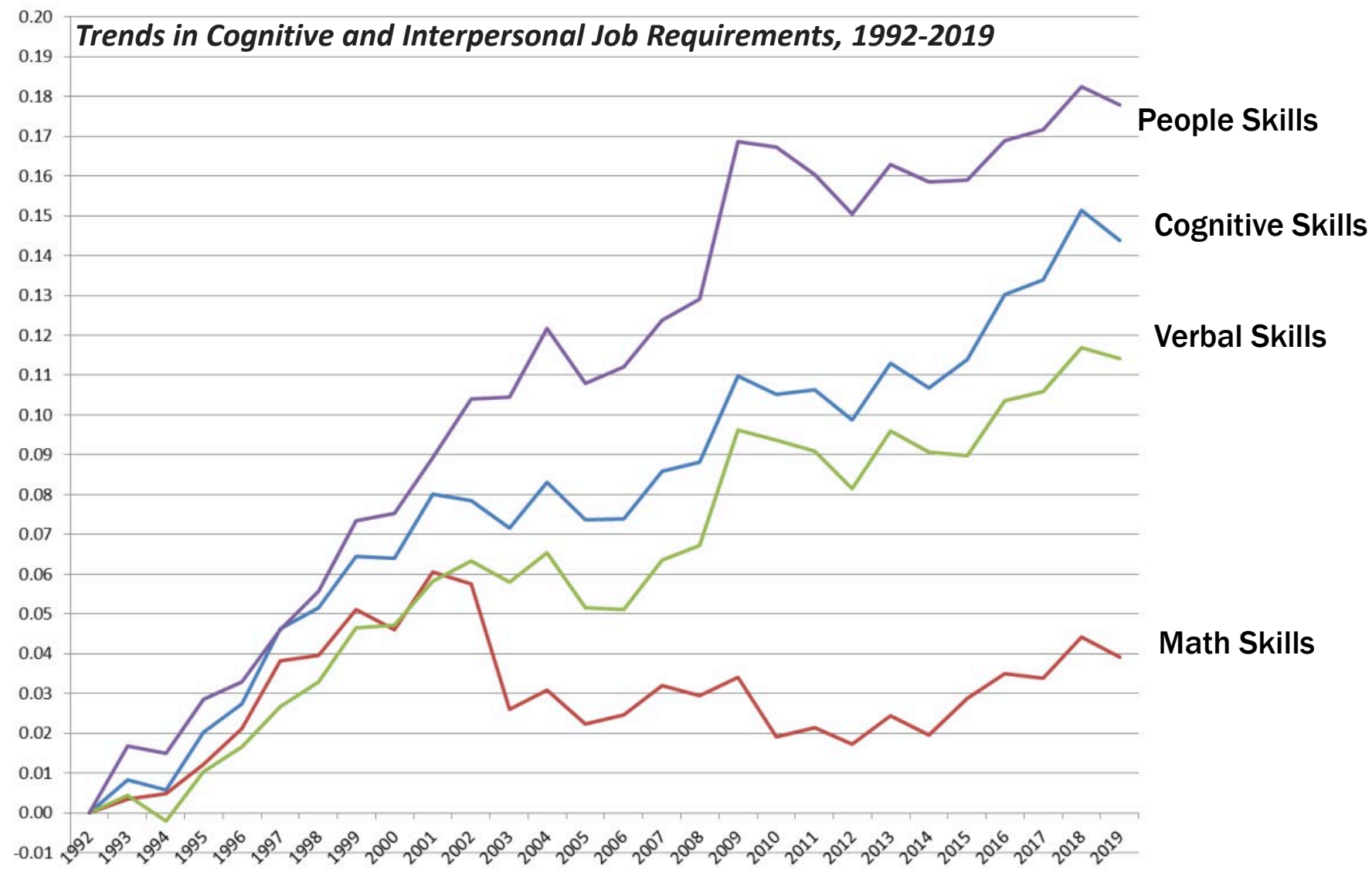
Trends in Craft and Gross Physical Job Requirements, 1992-2019



**Scaled to the mean in 1992*

Literacy for Today & Tomorrow

Knowledge, Skills & Competencies for A New Era



**Scaled to the mean in 1992*

Handel, 2020, Figure III.8

“In order to prepare young people to do the jobs computers and technology cannot do, we must re-focus our education system around one objective:

Giving students the foundational skills in problem-solving and communication that computers don't have.”

Literacy for Today & Tomorrow

Knowledge, Skills & Competencies for A New Era

Large-Scale Analysis of U.S. Job Descriptions

Oral and Written
Communication Skills

Collaboration Skills

Problem Solving
Skills

Rios et al., 2020

EdWeek Survey of What Top Executives Want from Today's K-12 Students

Develop + Refine Skills to
Communicate Clearly, w/ Intention
(work, client, and personal relationships)

Presentation Skills

Effective Writing

Lieberman, 2021

Today's Session



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04

The Science of Reading

Key Ideas

1. The term Science of Reading refers to a body of research.

The Science of Reading reflects research in education, psychology, linguistics, neuroscience, sociology, speech and language pathology, implementation science, and other fields. Integrating discoveries from across disciplines creates a comprehensive understanding of the reading and writing processes.

The Science of Reading

Key Ideas

1. The term Science of Reading refers to a body of research.
2. This Science of Reading should inform instruction from early childhood through adolescence.

Spotlight: Pressing Need to Anchor in SoR:

- Word reading instruction in the primary grades
- Vocabulary, comprehension, fostering engagement across the grades

Approaches and practices that are ineffective—or that are effective but absent—from classrooms compromise students' opportunities for lifelong success.

The Science of Reading

Key Ideas

1. The term Science of Reading refers to a body of research.
2. This Science of Reading should inform instruction from early childhood through adolescence.
3. The Science of Reading highlights the importance of structured literacy instruction that develops the “Big 6” Skills and Competencies.

Oral Language

Oral language, which includes speaking and listening, provides the foundation for written language.

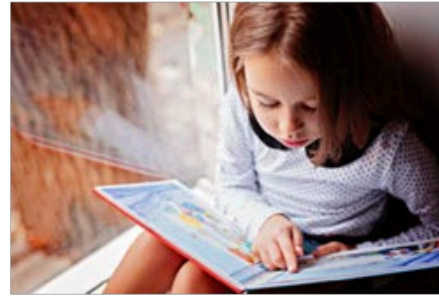
Vocabulary

A student's vocabulary, or internal dictionary, is comprised of words and their meanings.

Phonological Awareness

Phonological awareness is an awareness of speech sounds. *Phonemic awareness* involves being able to identify and manipulate sounds.

THE "BIG 6"



Fluency

Oral Reading Fluency is the ability to read connected text with accuracy, expression, and at an appropriate rate.

Phonics

Phonics is an instructional method that involves systematically matching sounds with the letters that represent the sounds.

Comprehension

Comprehension, a complex process, is the ultimate goal of reading. It is the ability to construct meaning from and interpret texts.

Structured Literacy Instruction: Three Principles

SYSTEMATIC + CUMULATIVE	EXPLICIT AND DIRECT	RESPONSIVE AND AUTHENTIC
<ul style="list-style-type: none">• Reading skills and competencies are introduced and taught in a manner and sequence that is systematic and logical• New skills build upon those previously taught, to support strong foundational skills + competencies, language and knowledge for content learning and success.	<ul style="list-style-type: none">• Instruction is direct and structured. Lessons are clear; students are shown how to start and succeed on a task—they are not expected to assume.• Curriculum materials and pedagogical approaches provide plenty of modeling, chances to learn + practice strategies and skills, and to get feedback.	<ul style="list-style-type: none">• Instruction is tailored to meet students' diverse needs and abilities. Educators provide various authentic pathways for learning and adapt instruction as necessary.• There is a focus on the assets that students bring to the classroom, and there is a commitment to raising expectations and making learning relevant for all students.

The Science of Reading

Key Ideas

1. The term Science of Reading refers to a body of research.
2. This Science of Reading should inform instruction from early childhood through adolescence.
3. The Science of Reading highlights the importance of structured literacy instruction that develops the “Big 6” Skills and Competencies.
4. The “Science of Reading” emphasizes and reflects the importance of fostering a culturally responsive teaching environment.

Student-Centered, Culturally Responsive Environments

NYSED Culturally Responsive-Sustaining
Education Framework

welcoming, affirming
environments

*students feel represented,
reflected, understood, valued*

academically
rigorous, intellectually
challenging and
adaptive to student
needs

inclusive curriculum +
assessments

effective and equitable
instruction

(the cornerstone of Science of Reading)

MYTHS

1. The *Science of Reading* (SoR) refers to one instructional approach, i.e., it is a tangible program or curriculum.
2. SoR signals that reading instruction should focus on teaching specific skills in isolation.
3. SoR demonstrates that effective early literacy instruction is limited to promoting the acquisition of phonics and decoding.
4. SoR and culturally responsive teaching are distinct approaches.

FACTS

SoR is a term that references 50+ years of interdisciplinary research. The term reminds us to use the research to inform instructional design + implementation.

SoR shows that different skills require different instructional strategies; the overall approach should be cohesive and coordinated.

SoR shows that explicit, intensive phonics and word reading instruction is imperative in the primary grades. It also shows that explicit, intensive oral language + comprehension instruction is equally important in all grades.

SoR shows that it is only in student-centered, culturally-responsive and inclusive classrooms characterized by rigor and high expectations children develop literacy skills for life



REFLECT TURN + TALK

What does this information about 1) fundamental literacy skills for today and tomorrow and 2) the Science of Reading have you thinking about?

Today's Session



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What are the Core Elements of Early Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

CHALLENGE (& OPPORTUNITY):

To design learning environments and curricular materials that create a tight match between the skill and competency demands of today's context and students' needs and goals

LET'S LOOK AT THIS IN TWO WAYS:

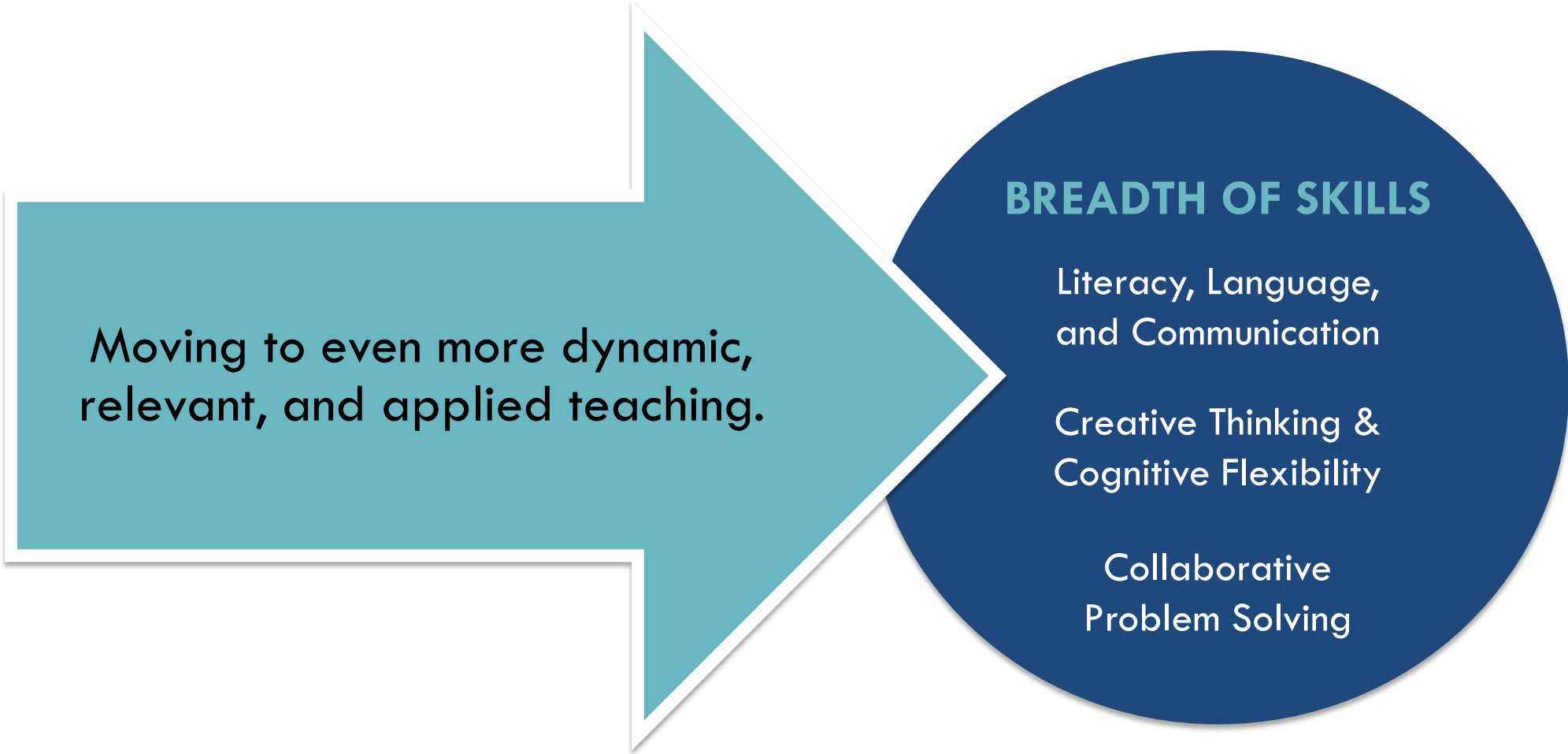
- ① What does this learning environment look and feel like?
- ② What does this mean for the approach to classroom learning and curriculum design?

A large flock of birds, possibly terns, is captured in flight over a body of water. The birds are densely packed in some areas, creating a textured, almost cloud-like effect. The sky is a mix of warm orange and yellow tones, suggesting a sunset or sunrise. The water below is a deep blue-grey color. The overall scene conveys a sense of natural beauty and movement.

**WHAT DOES THIS LEARNING
ENVIRONMENT LOOK AND FEEL LIKE?**

What are the Core Elements of Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms



Moving to even more dynamic,
relevant, and applied teaching.

The diagram features a large teal arrow pointing from left to right. Inside the arrow is the text 'Moving to even more dynamic, relevant, and applied teaching.' The arrow points towards a dark blue circle. Inside the circle, the text 'BREADTH OF SKILLS' is at the top, followed by three lines of text: 'Literacy, Language, and Communication', 'Creative Thinking & Cognitive Flexibility', and 'Collaborative Problem Solving'.

BREADTH OF SKILLS

Literacy, Language,
and Communication

Creative Thinking &
Cognitive Flexibility

Collaborative
Problem Solving

What are the Core Elements of Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

ENVIRONMENTS WHERE LEARNERS ARE:

Mentally active

Engaged

Socially interactive

Building meaningful connections to their lives





CHANGING THE PARADIGM



IF YOU ARE
INTERESTED
IN THE MODEL
OF EDUCATION

I BELIEVE
WE NEED
TO GO...

YOU DON'T
START
FROM
PRODU
LIN



IN THE EXACT OPPOSITE DIRECTION

A large flock of birds, possibly terns, is captured in flight over a body of water. The birds are densely packed in some areas, creating a textured, almost cloud-like effect. The background features a soft, warm glow from a low sun, with colors ranging from deep orange to pale yellow and light blue. The water below is dark and reflects the light from the sky. The overall mood is serene and majestic.

**WHAT DOES THIS MEAN FOR THE APPROACH TO
CURRICULUM DESIGN + CLASSROOM LEARNING?**

Big Picture: We Make Two Key Distinctions

1. Code-Based Skills and
Meaning-Based Skills

2. Everyday Language and
Academic Language

Key Distinction #1:

Code-Based Skills & Meaning-Based Skills

Code-based skills

3 sounds, 1 word:
/sh/ /ar/ /k/

Spelling pattern:
there vs. their

~100 words correct per minute
(grade 3)

There are almost 400 different kinds of sharks. Each kind of shark looks different, has a unique diet, and behaves differently. There are sharks in all four oceans of the world. Some sharks are longer than a school bus, while others are so small they can live in fish tanks. Sharks come in all kinds of colors. Most of the time, their skin color helps them blend in with their surroundings. But, some sharks that live in the deepest part of the ocean actually have parts that glow in the dark. Most sharks live in salt water, but some can live in fresh water. All sharks are unique, or have different qualities that make them so special.

Meaning-based Skills

Cognitive strategies

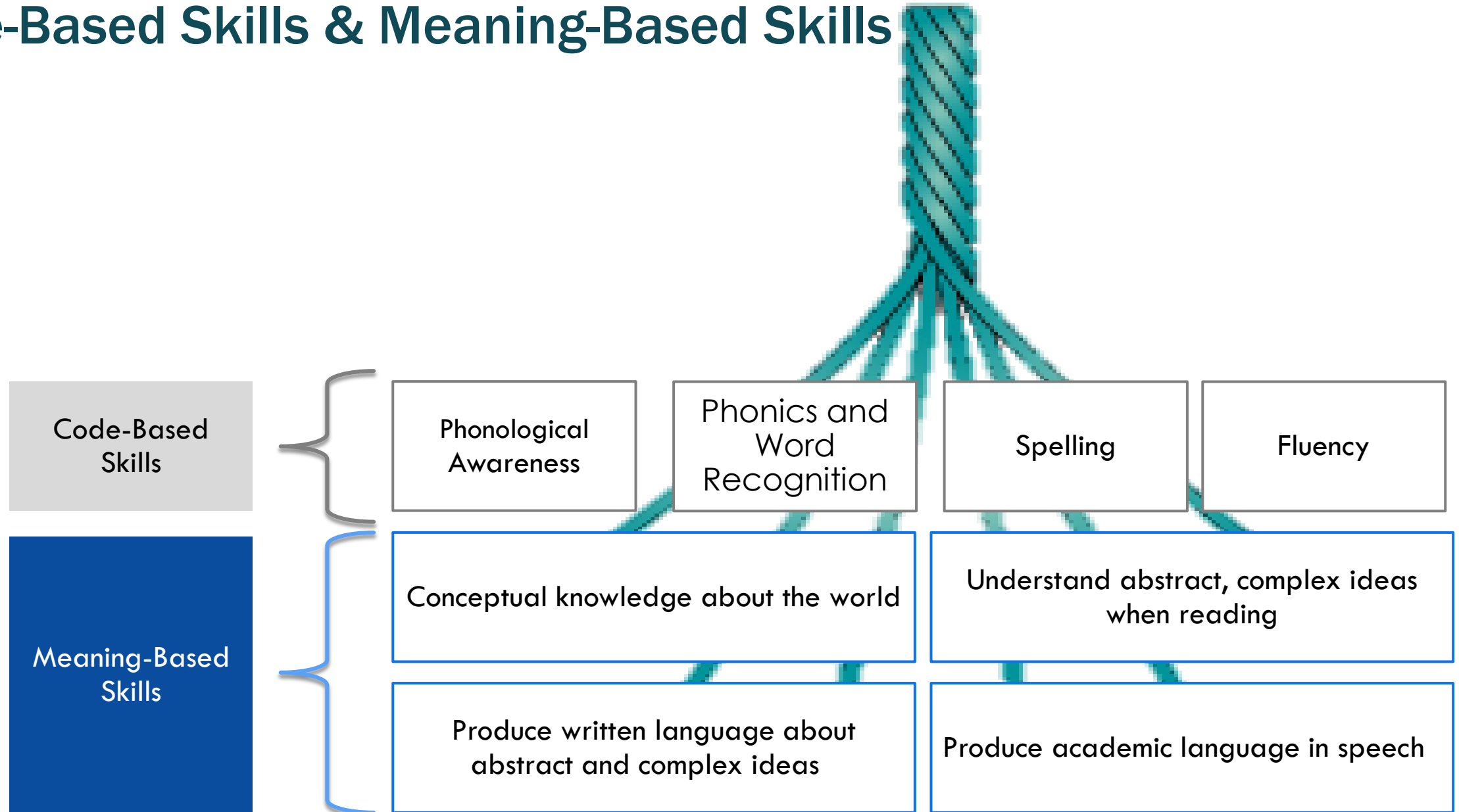
Vocabulary

Relevant background knowledge

Understanding of language

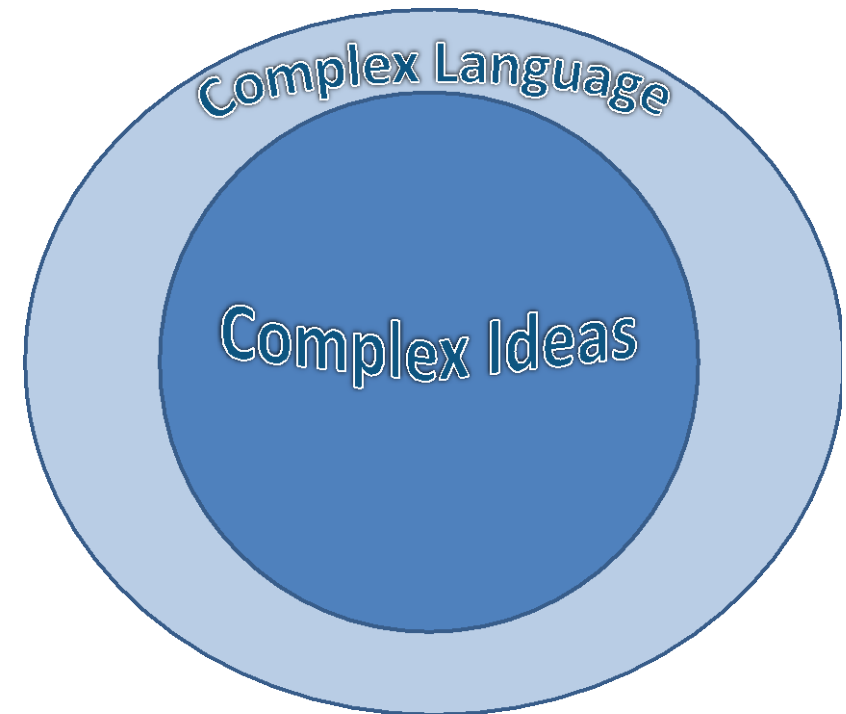
Interest and motivation

Key Distinction #1: Code-Based Skills & Meaning-Based Skills



Key Distinction #2: Everyday Language & Academic Language

Academic language is the oral and written language used primarily in school, civic, and professional settings—the language of text, academic success, and of power and influence. It is distinct from everyday conversational language.

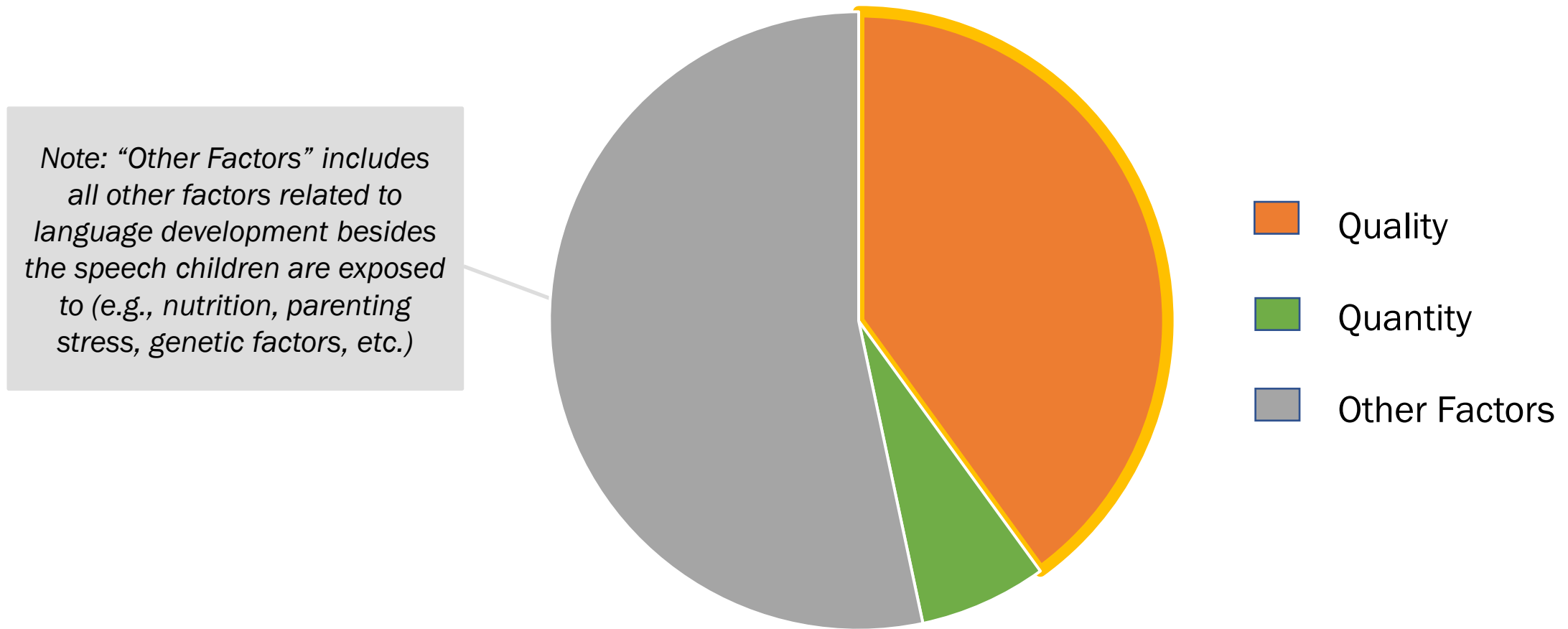


Key Distinction #2: Everyday Language & Academic Language



Source	Academic words per 1,000
Newspapers	68.3
Adult books	52.7
Comic books	53.5
Children's books	30.9
Conversation between two college-educated adults	17.3

Research Snapshot: *Quality* of language environment matters more than the quantity of talk



(e.g., Cartmill et al., 2013; Hirsh-Pasek et al., 2015; Newman, Rowe & Ratner 2016; Rowe, 2012; Rowe, Leech & Cabrera, 2016; Rowe & Snow, in press)

Research Snapshot: Back-and-forth communication is associated with greater language skills



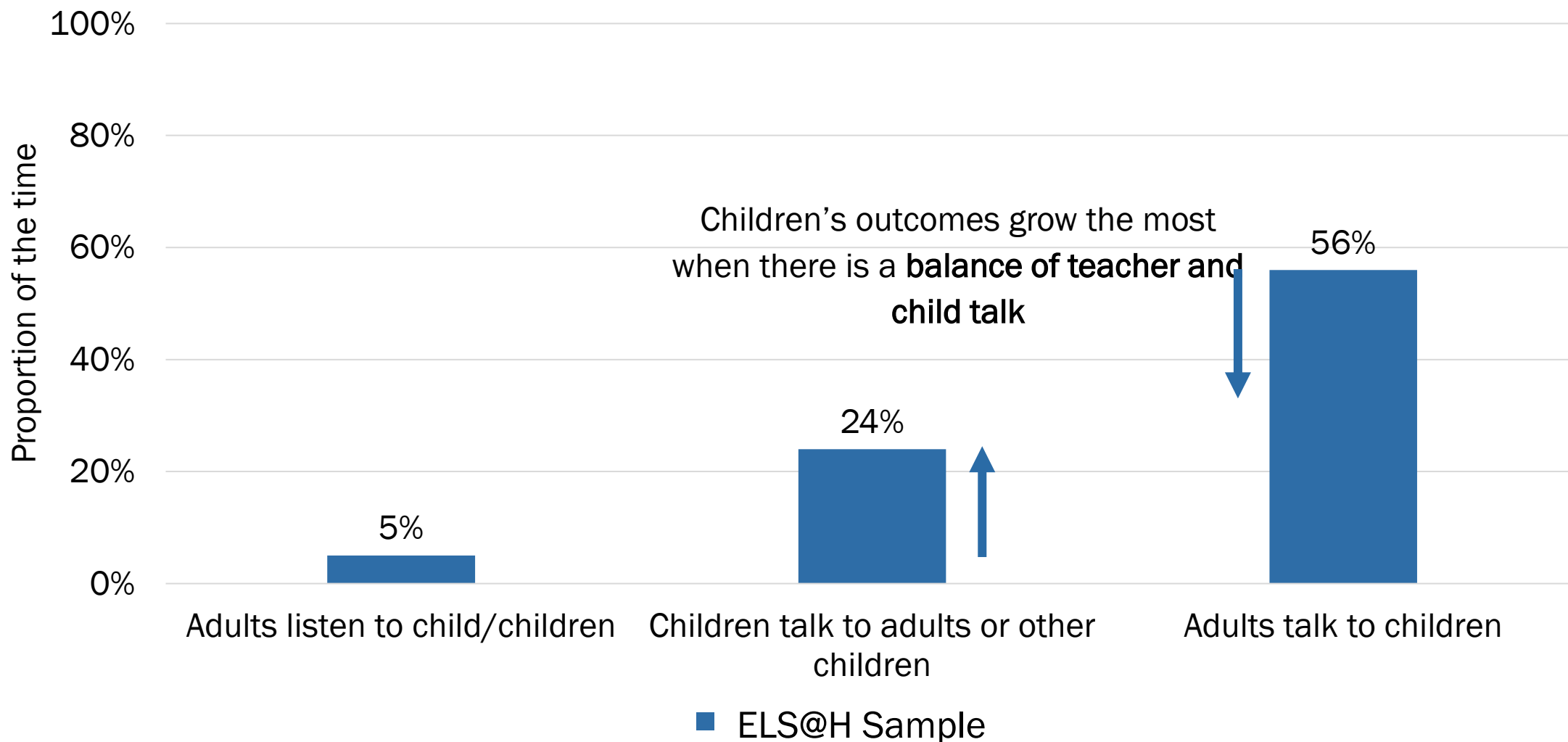
Number of conversational turns
per hour, including lots of
gesture

Greater language skills

“Results suggest that **conversational experience** impacts neural language processing **over and above SES** [socio-economic status] or the **sheer quantity of words heard**” (Romeo et al., 2018).

These findings are consistent with research performed in classrooms, where studies have shown that **conversational turns between teachers and children and among children (peers) are the best predictors of vocabulary growth** (Perry et al., 2018).

Educator and Child Talk



Key Distinction #2: Everyday Language & Academic Language

Decontextualized language is language that is removed from the here and now. For example:

- **Talking about another time** (e.g., talking about what happened yesterday or what will happen next weekend)
- **Explanations** (e.g., “She can’t have chocolate because she’s a little baby.”)
- **Pretend play/talk** (e.g., assuming a role or making one object represent another)



(Snow, 1990; Rowe, 2012)

BIG PICTURE

We Make Two Key Distinctions.

**And then we Design to Foster Skills, Competencies,
Knowledge, and Engagement.**

What are the Core Elements of Early Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

DESIGN PRINCIPLES

Organizes learning around units of study with content-rich themes and texts

Provides rigor and challenge in a supportive context

Combines explicit instruction with inquiry-based learning

Promotes culturally responsive learning environments

Uses consistent routines and language

Supports peer-to-peer interaction

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What do we learn at school? What are schools like around the world?	What makes a family?
How do we get what we need?	What's wild about weather?
How are animals different?	Why do we need maps?
What's different about then and now?	

THEMES

- Learning around the world
- Communities: Familiar to Global
- Goods and Services
- Physical Adaptations in The Animal Kingdom
- Understanding the Weather around Us
- Innovations Then + Now
- Representing our World Through Mapping

What are the Core Elements of Early Literacy Instruction?

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Growing and Changing

Unit at a Glance

- ▶ Language: Retell a Story, Restate an Idea, Science Words
- ▶ Literacy: Determine Importance
- ▶ Content: Animal Life Cycles

Unit 4

BIG Question How do animals change as they grow?

Share What You Know

- 1 Draw an animal you know as a baby, and then as an adult.
- 2 Tell how the animal changed.
- 3 Show what the baby can do. Show what the adult can do.

Build Background: Watch a video about animals.
[NGReach.com](https://www.NGReach.com)

200

What are the Core Elements of Early Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

What makes a strong friendship?	What shapes our identity?
What qualities do leaders need to succeed?	How can innovation improve society?
Why do people take risks?	How does adversity make us stronger?
How can we achieve happiness?	How can we become citizens of the world?

What are the Core Elements of Early Literacy Instruction?

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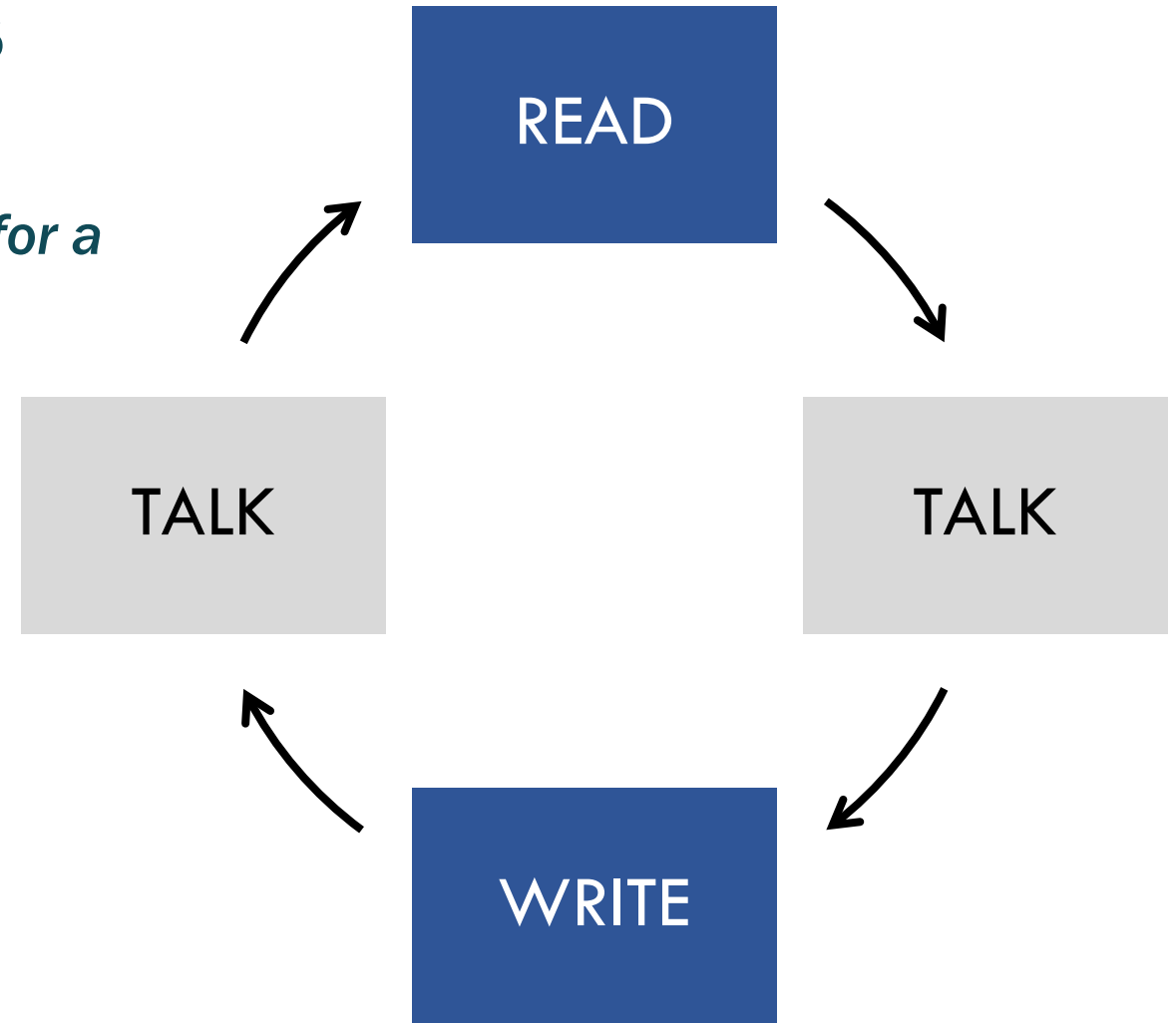
Promotes culturally responsive learning environments

Uses consistent routines and language

Supports peer-to-peer interaction

A Learning Cycle for Today's Context

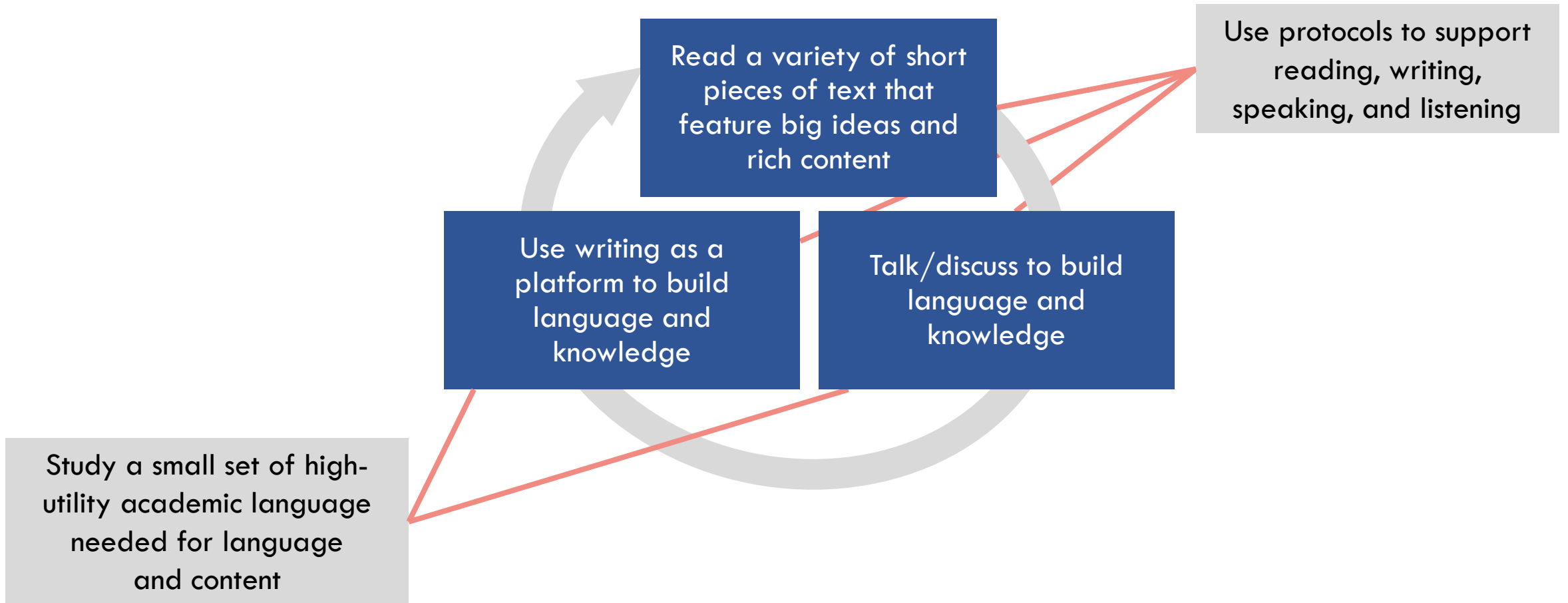
Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms



What are the Core Elements of Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

HALLMARKS OF ADVANCED LITERACY INSTRUCTION



What are the Core Elements of Early Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

Read Aloud
(narrative &
expository)

Decodables, Early
Readers

Extended Writing

What makes a community?

A Big Idea or Question

Study of Words that
Represent Abstract
Concepts

Collaborative
Research Project

Debate in Teams to
Present Project

What are the Core Elements of Early Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

DESIGN PRINCIPLES

Organizes learning around units of study with content-rich themes and texts

Provides rigor and challenge in a supportive context

Combines explicit instruction with inquiry-based learning

Promotes culturally responsive learning environments

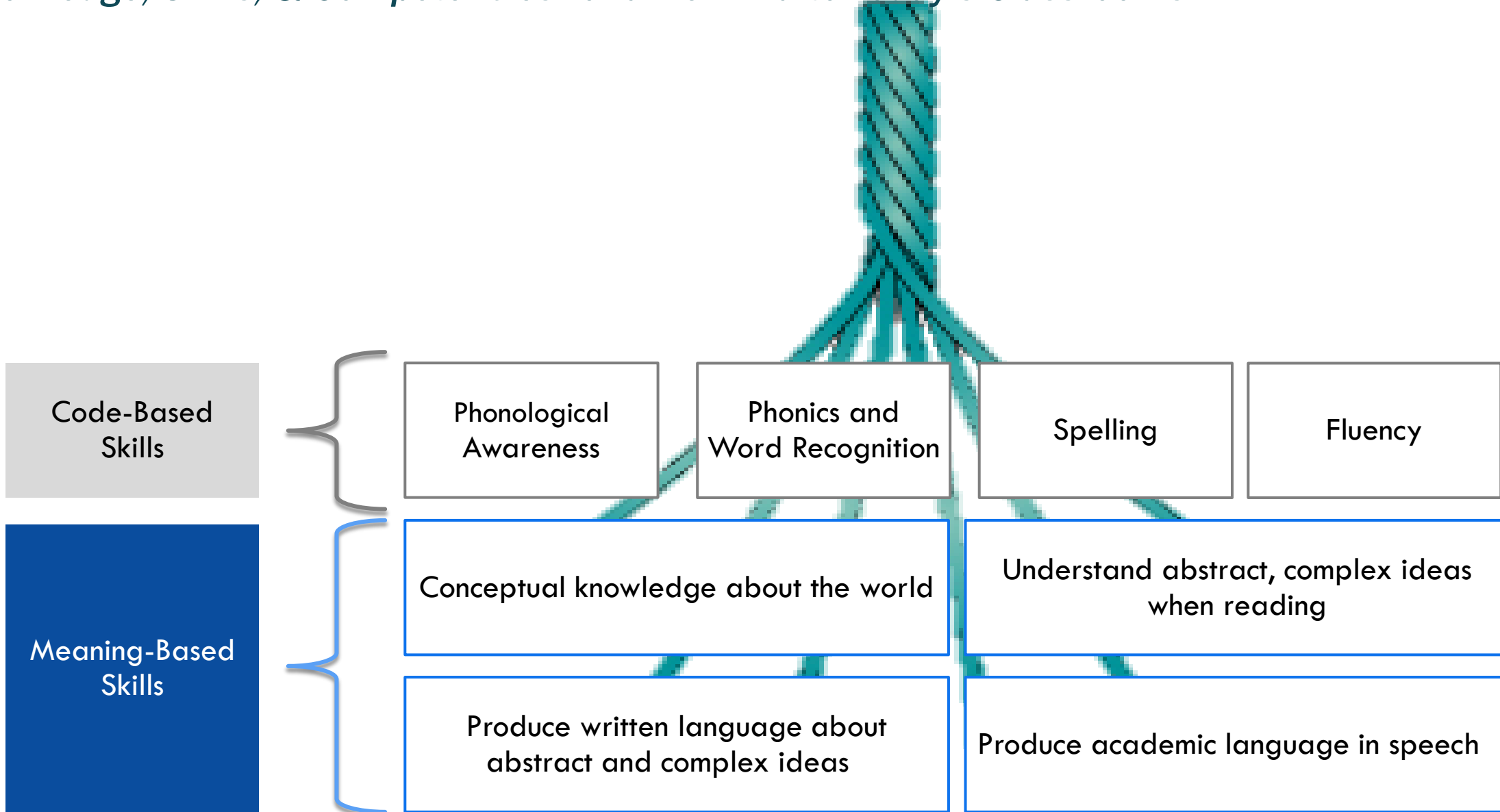
Uses consistent routines and language

Supports peer-to-peer interaction

What are the Core Elements of Early Literacy Instruction?

Mapping Knowledge, Skills, & Competencies for a New Era to Today's Classrooms

Explicit,
intensive
instruction
PK-3 as
part of a
coordinated
+ cohesive
plan



Peer Learning & Inquiry-Based Learning

Week 5 At A Glance

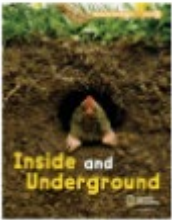
Language Production Project:

To work in groups on a plan for how a local habitat can be protected. Building on independent and collaborative work over 4 weeks, during week 5, groups generate an advocacy product: a pamphlet, letter to the mayor, presentation to city council, etc.

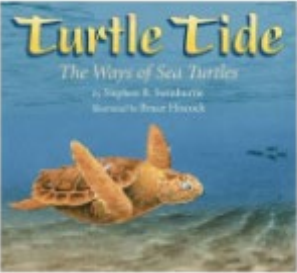
Week 5's Knowledge Goal:

- To study the ways that communities and scientists can partner to protect animals and their habitats.

Fundations	Learning Stations	Reading to Learn	Integrated Writing
<ul style="list-style-type: none">Unit 8, Week 1	<p>Reading:</p> <ul style="list-style-type: none">Listening to texts: <u>Turtle Tide: The Ways of Sea Turtles</u> by Stephen R. Swinburne <p>Word Work: • Work with I and R blends,</p> <p>Content Writing:</p> <ul style="list-style-type: none">Creating an informational foldable which students will orally present to their classmates	<p>Core Texts:</p> <ul style="list-style-type: none"><u>Sea Turtles</u> by Laura Marsh (nonfiction informational)<u>Turtle Tide: The Ways of Sea Turtles</u> by Stephen R. Swinburne (narrative nonfiction) <p>Focus Areas:</p> <ul style="list-style-type: none">Identify main idea and detailsSetting a purpose for reading	<ul style="list-style-type: none">Generate an informational foldablePlan, draft, edit, and orally present information about the endangered sea turtleDescribe the actions scientists and community members can take to protect sea turtles and their habitats



Read on Your Own Book 15



Trade Books

Today's Session



2. What does
*Science of
Reading* Mean for
Early Literacy
Efforts?

Four key ideas to
inform early literacy
work



4. How does
Effective Literacy
Instruction
Promote Child
Development?

What We're Learning from
Brain Science & Social-
Emotional Research

1. What is
Literacy for
Today and
Tomorrow?

Knowledge, Skills +
Competencies for all
Learners



3. What are the
Core Elements of
Effective Early
Literacy
Instruction?

Building Literacy for Today
& Tomorrow in all
Classrooms



How does Effective Literacy Instruction Promote Child Development?

Making Connections to Brain Science + Social-Emotional Research

“Broadly speaking, social and emotional learning (SEL) refers to the process through which individuals learn and apply a set of social, emotional, and related skills, attitudes, behaviors, and values that help direct their thoughts, feelings, and actions in ways that enable them to succeed in school, work, and life.”

What is Social and Emotional Learning?

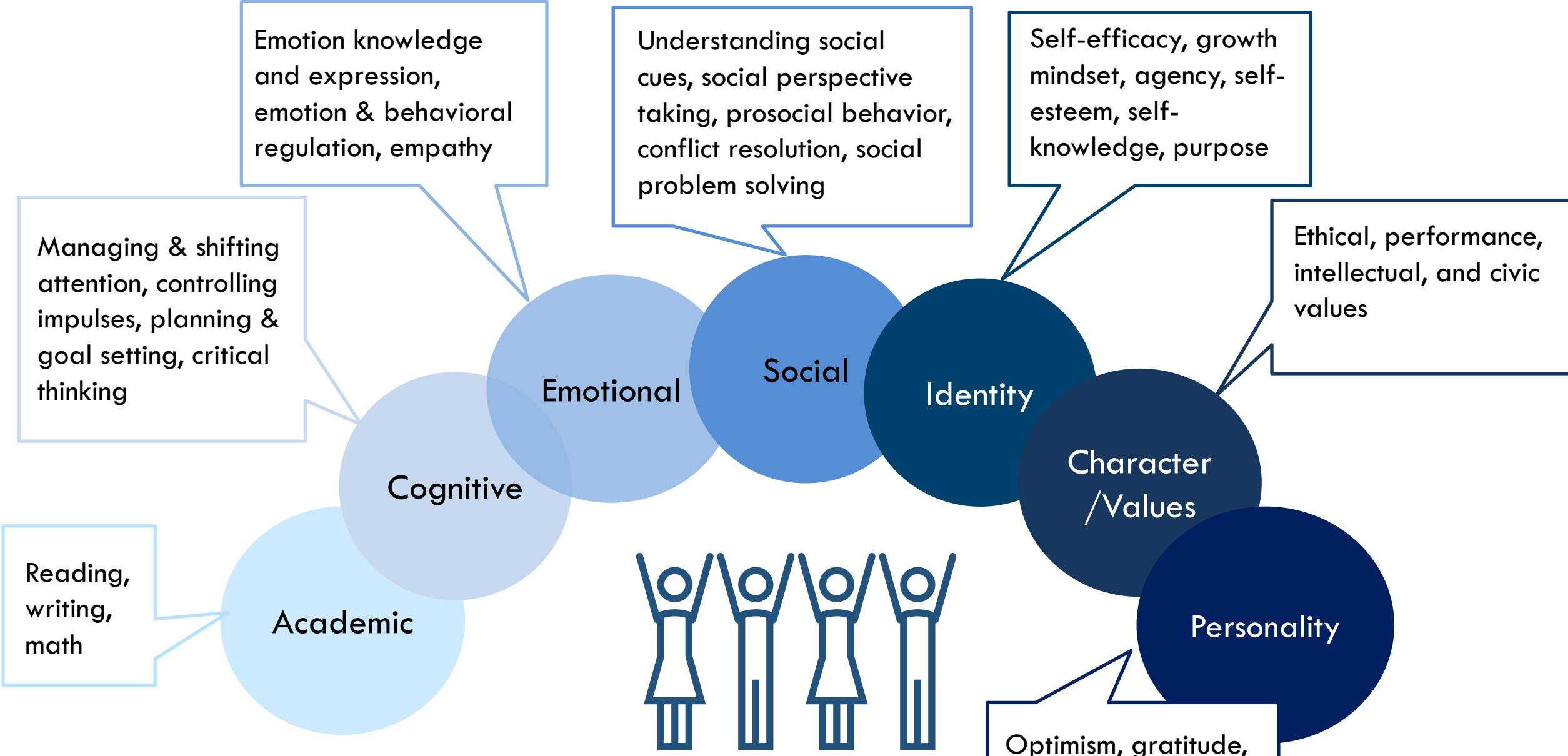
Focus thinking

Understand and deal
with feelings

Manage behavior

Build positive
relationships

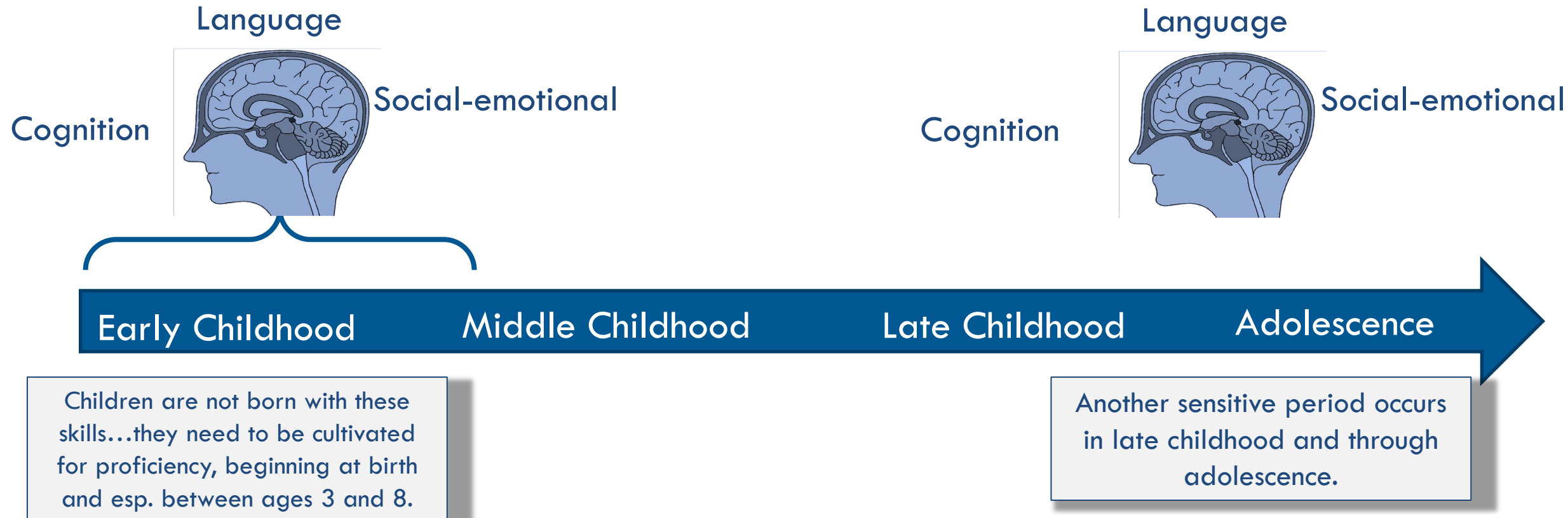




SEL Skills & Competencies

How does Effective Literacy Instruction Promote Child Development?

Making Connections to Brain Science + Social-Emotional Research



How does Effective Literacy Instruction Promote Child Development?

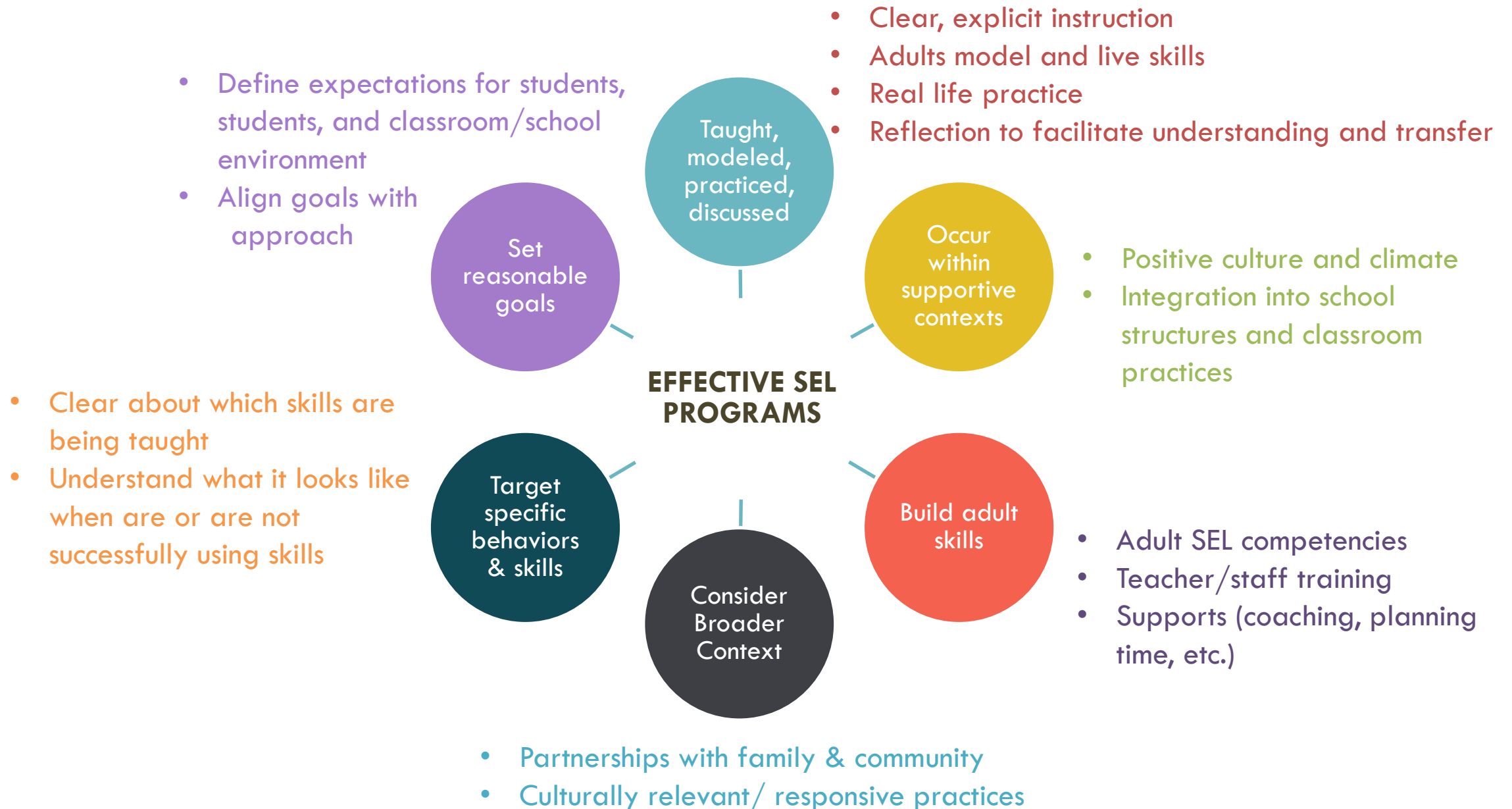
Making Connections to Brain Science + Social-Emotional Research

The brain...

Develops cognitive,
emotional, and
social skills together

Builds connections
throughout a
lifetime

Is Very, Very Sensitive to its Environment(s)

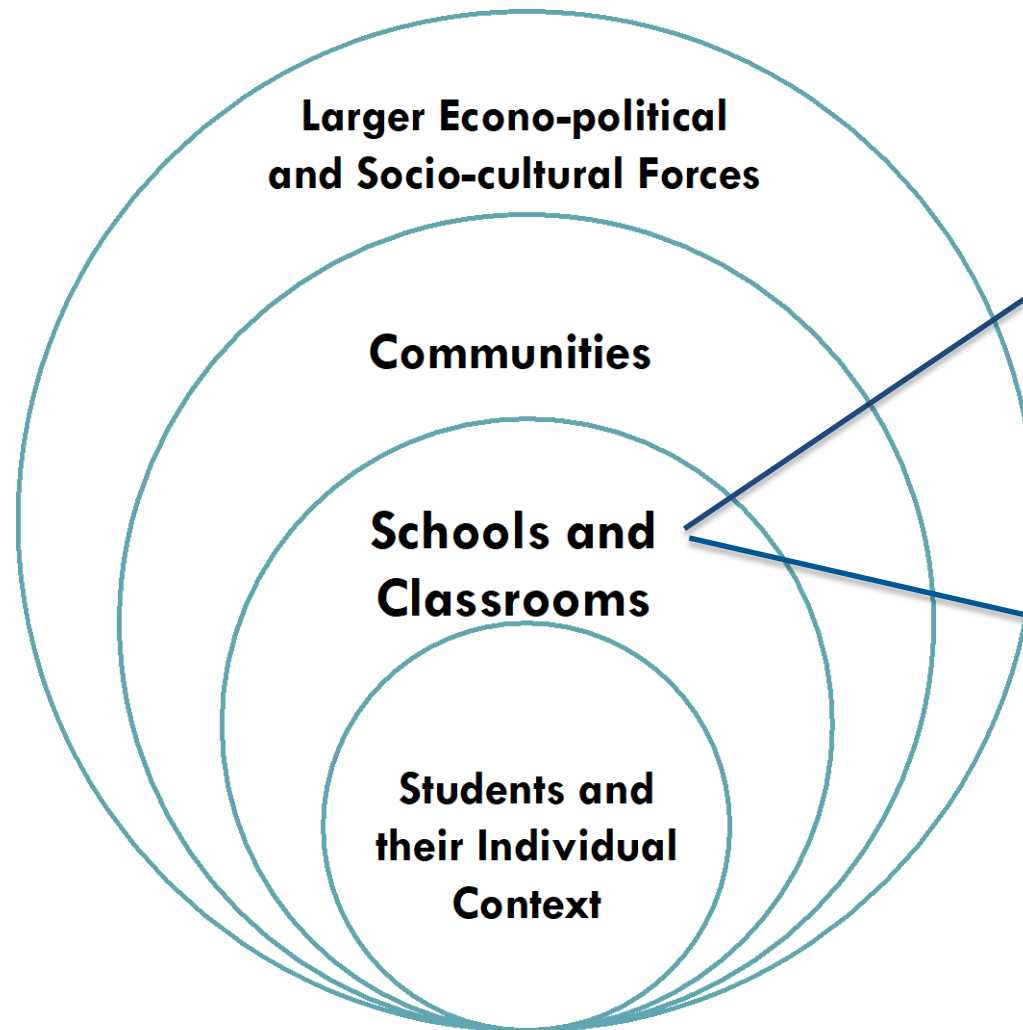


How does Effective Literacy Instruction Promote Child Development?

Making Connections to Brain Science + Social-Emotional Research

Literacy Instruction		PRINCIPLES		Social-Emotional Instruction
...knowledge & skills		Provide direct instruction...		...in emotion management, social skills, and attention
... for discussing academic concepts and questions		Use rich texts as a platform...		... for promoting emotional language development, self reflection, and empathy
...of words and how they work		Cultivate consciousness...		...of our own feelings and the feelings of others
...to build language and reading skills		Increase classroom talk...		...to build cooperation and conflict resolution skills
...to support instructional cohesion across classrooms and grades		Use consistent routines and language...		...to reduce chaos and minimize anxiety, create common social norms

Bringing it All Together



Process Features

- Safe, caring environments
- Warm climate, tone/tenor
- Consistent, effective routines, behavior + classroom management practices
- Opportunities to develop strong relationships

Developmentally Appropriate Instruction

- Rigorous, explicit, and supportive
- Units of study w/ rich content
- Frequent opportunities to respond (oral, written, small + whole group)
- Collaborative learning, peer-to-peer learning interactions
- Track + monitor growth

THANK YOU!

HARVARD



GRADUATE SCHOOL
OF EDUCATION

The Science and Practice of Early Literacy in Today's Schools and Classrooms
