RECONSIDERING THE SCIENCE OF READING THROUGH AN EQUITY LENS

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A DRIVING QUESTION

If the greatest challenge historically faced by North American educators is serving all children equitably, how can a single approach to teaching reading be the solution for children from a vast range of cultural, linguistic, socioeconomic, and experiential backgrounds?
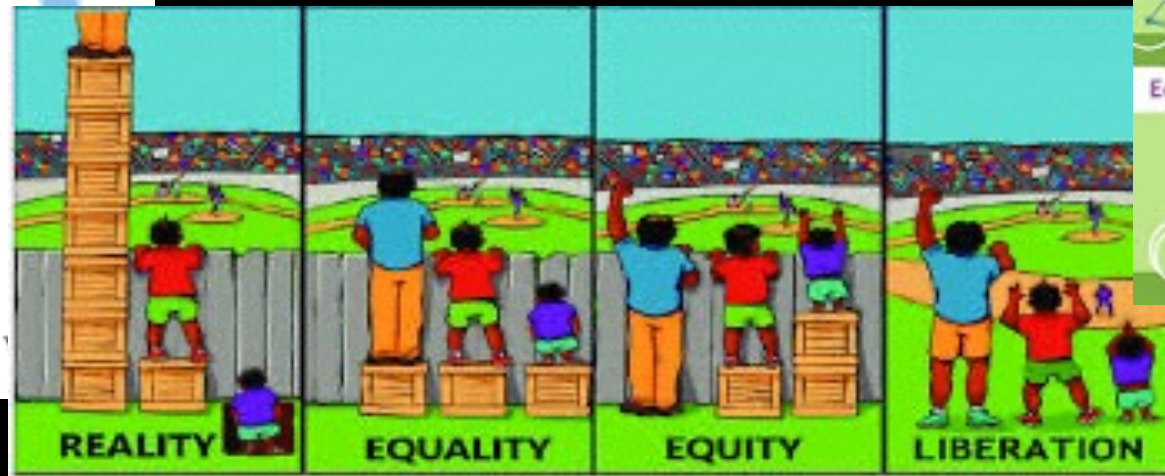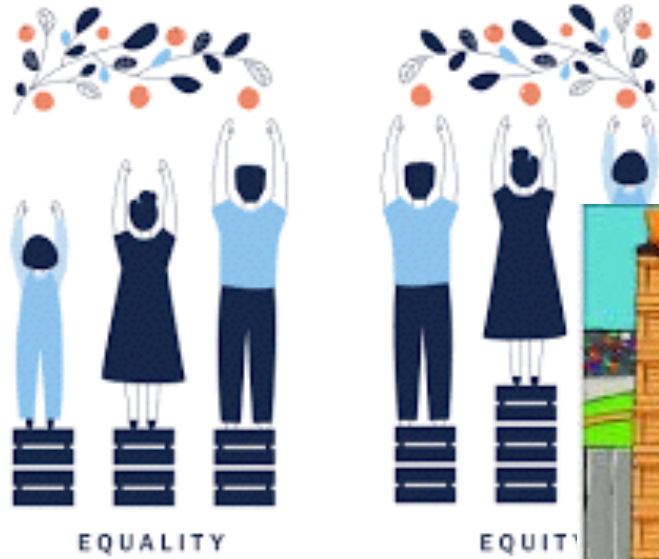
EQUALITY VERSUS EQUITY

Equality means everyone is treated the same exact way, regardless of a person's needs or other individual differences

Equity, means everyone is provided with resources specific to their needs to be successful.
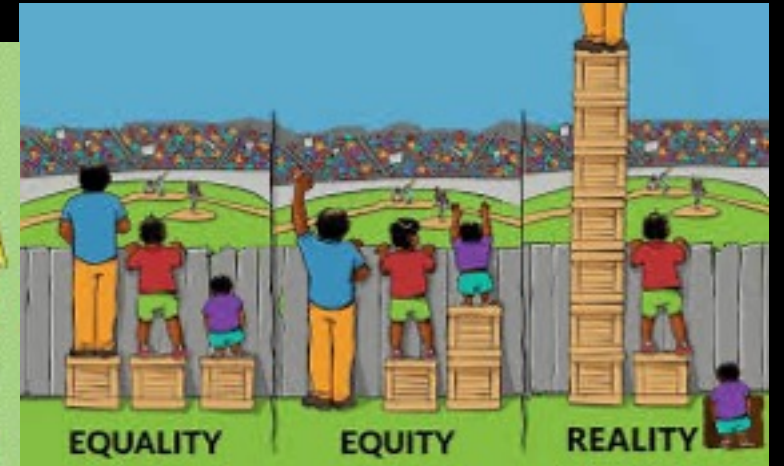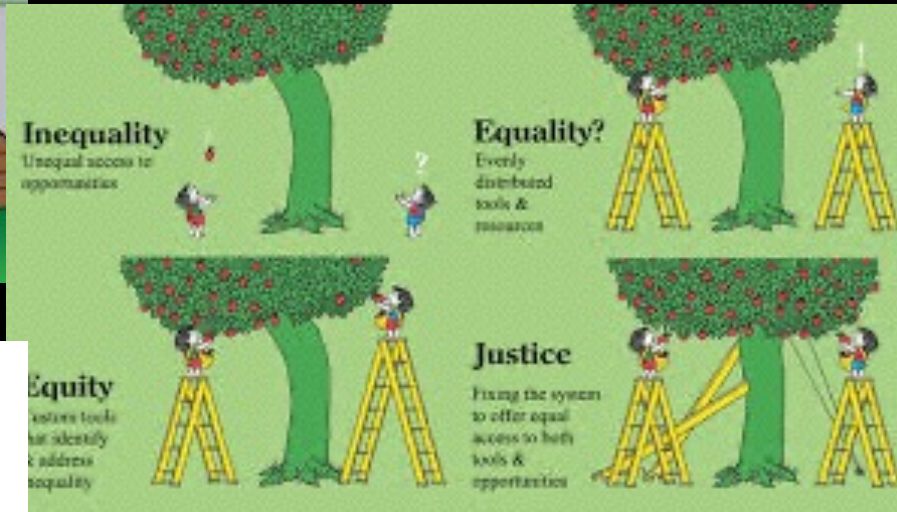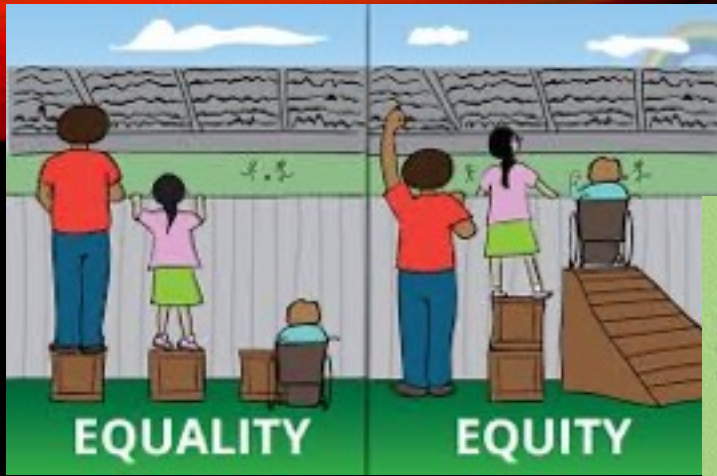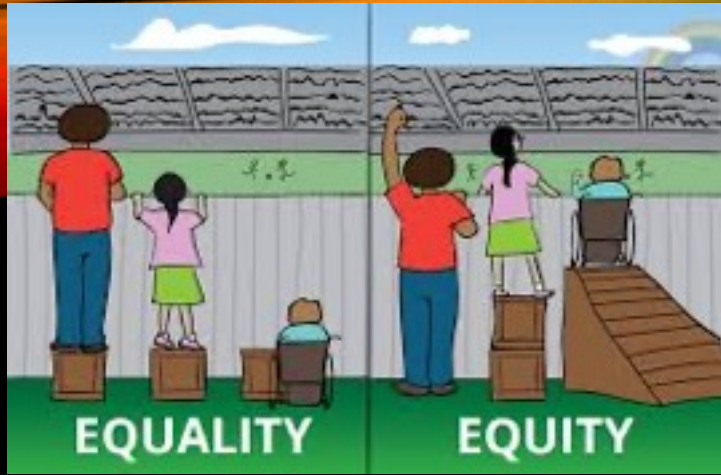
EQUALITY VERSUS EQUITY

EQUALITY VERSUS EQUITY

Equality means everyone is treated the same exact way, regardless of a person's needs or other individual differences

Science of Reading – All children need the same thing: structured literacy, heavy doses of phonics, and a scripted curriculum

Equity, means everyone is provided with resources specific to their needs to be successful.

Child-Centered Approaches – Children have unique needs and need responsive instructional approaches; student-centered instruction draws on careful observation and analysis of children's reading behaviors.

Recognizing that scientific investigations surrounding reading are vast and multidimensional, I challenge descriptions of the *Science of Reading* that entail exaggerated, misleading, and at worse false statements promoted in the media by a small group of scholars, educational activists, publishers, and journalists. These policies, practices and claim are dangerous because they deny the diversity of children served in US classrooms. This diversity entails race, social class, neurodivergence, ability, past experiences, and culture as well as a vast range of other considerations.

And. . . they are dangerous because they impact educational policy limiting how teachers can respond to individual children, which is particularly problematic for children who have been historically underserved by the mainstream American education system.

	Number of categories	Teacher prep	Teacher cert or license renewal	PD / coaching	Assessment	Materials	Instruction / intervention
Total		23	20	38	31	31	33
Alabama	6	✔	✔	✔	✔	✔	✔
Georgia	6	✔	✔	✔	✔	✔	✔
Kentucky	6	✔	✔	✔	✔	✔	✔
Maryland	6	✔	✔	✔	✔	✔	✔
Mississippi	6	✔	✔	✔	✔	✔	✔
North Carolina	6	✔	✔	✔	✔	✔	✔
Tennessee	6	✔	✔	✔	✔	✔	✔
Virginia	6	✔	✔	✔	✔	✔	✔
West Virginia	6	✔	✔	✔	✔		✔
Wisconsin	6	✔	✔	✔	✔	✔	✔
Alaska	5		✔	✔	✔	✔	✔
Arkansas	5	✔	✔	✔		✔	✔
Colorado	5		✔	✔	✔	✔	✔
Florida	5		✔	✔	✔	✔	✔
Illinois	5		✔	✔	✔	✔	✔
Michigan	5	✔		✔	✔	✔	✔
Missouri	5	✔		✔	✔	✔	✔
Ohio	5	✔		✔	✔	✔	✔

EIGHT CHILDREN

…who are all different and represent a vast range of human differences.

EIGHT CHILDREN

The particular children that I speak about today are NOT real, but they really are in our schools and classrooms. . .

DIFFERENCES RELEVANT TO READING

- **Developmental Differences**
- **Socioeconomic Differences**
- **Racial Differences**
- **Linguistic Differences**
- **Cultural Differences**
- **Physical Differences**
- **Neurological Differences**
- **Human Differences**
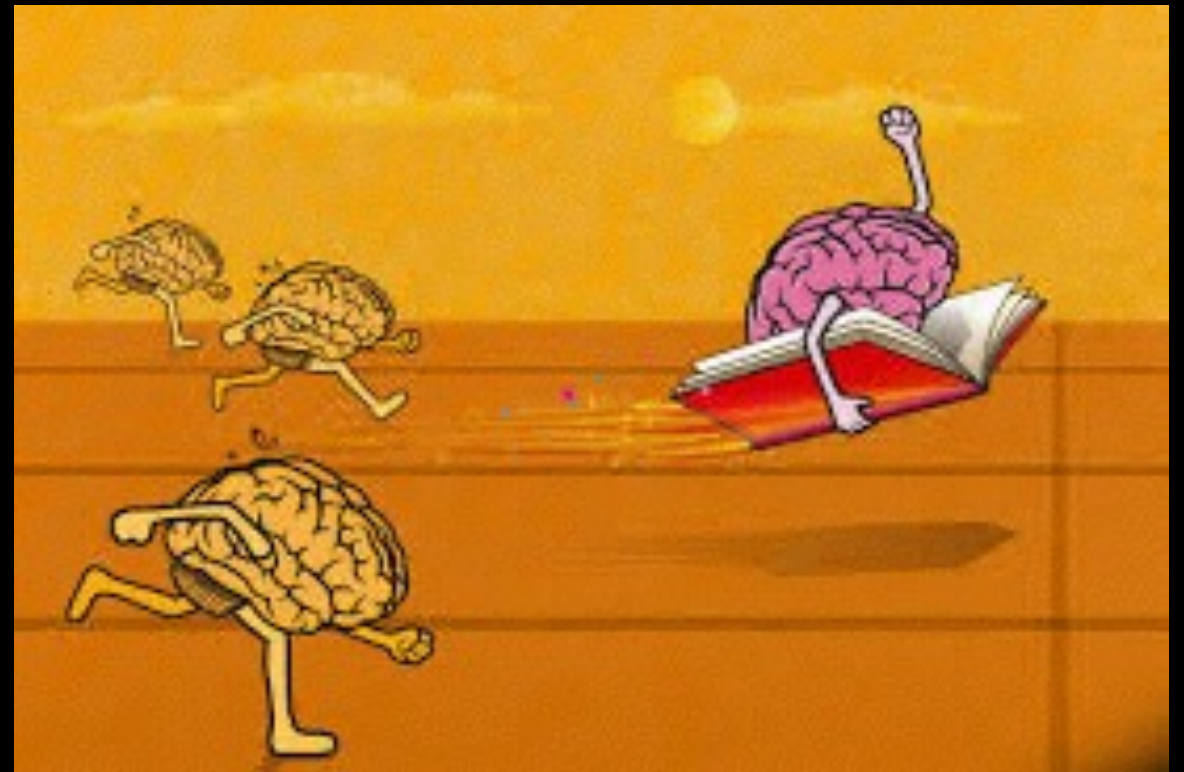
OUR PROTOTYPICAL CHILDREN

- **Developmental Differences**
- **Socioeconomic Differences**
- **Racial Differences**
- **Linguistic Differences**
- **Cultural Differences**
- **Physical Differences**
- **Neurological Differences**
- **Human Differences**

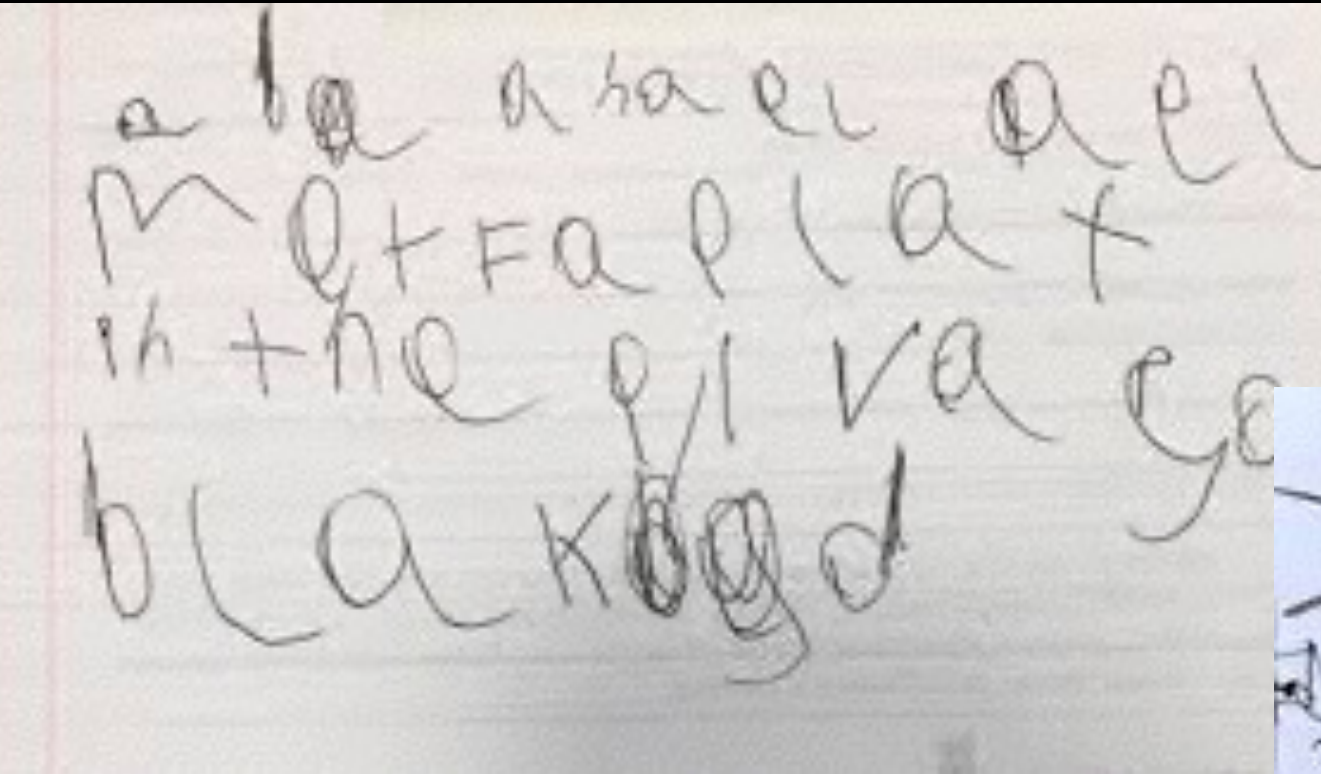# EXPLORING DIMENSIONS OF DIFFERENCE AND READING

- For each dimension of difference, I will introduce a student.
- Briefly discuss research that documents how this difference affects learning to read
- Provide a classroom-based example

DEVELOPMENTAL DIFFERENCES

Cindy's Self -Portrait

DEVELOPMENTAL DIFFERENCES

DEVELOPMENTAL DIFFERENCES

Chall, J. S. (1983). Stages of reading development. McGraw Hill	Chall identified six developmental stages that children progress through as they become readers. She identified a fourth grade slump, when many children struggled as school reading shifted from a focus on learning to read to reading to learn.
Sulzby, E., & Teale, W. H. (1985). Writing development in early childhood. *Educational Horizons*, *64*(1), 8-12.	Sulzby and Teale describe developmental changes that track how children as they become writers. This work challenged traditional notions of reading readiness, highlighting how even very young children used written text to express and convey ideas.
Doake, D. (1985). Reading-like behavior: Its role in learning to read. In A Jaggar & T. Smith-Burke (eds.), *Observing the language learner*, (pp. 82-98). IRA & NCTE.	Doake tracks changes in children's reading behaviors over time noting the significance of storybook reading experiences. He documents four participatory strategies that emerge as children become increasingly familiar with books.
Strommen, L. T., & Mates, B. F. (1997). What readers do: Young children's ideas about the nature of reading. *The Reading Teacher*, *51*(2), 98-107.	This study reports on a three-year longitudinal study documenting the development of children's ideas about reading over time. They describe a general movement from focusing on reading as an interpersonal routine to referencing print using the language encoded by print.

DEVELOPMENTAL DIFFERENCES

"'Developmental variation' refers to the natural range of differences in how individuals develop across various aspects of their lives, including physical, cognitive, and social abilities, essentially signifying that not everyone develops at the same pace or in the same way, and this is considered a normal part of the human condition; it encompasses the idea that diverse developmental trajectories are inherent to human development and should not be automatically viewed as a disorder unless significant functional impairments are present."

AI Generated through Google

Keisha's Self Portrait
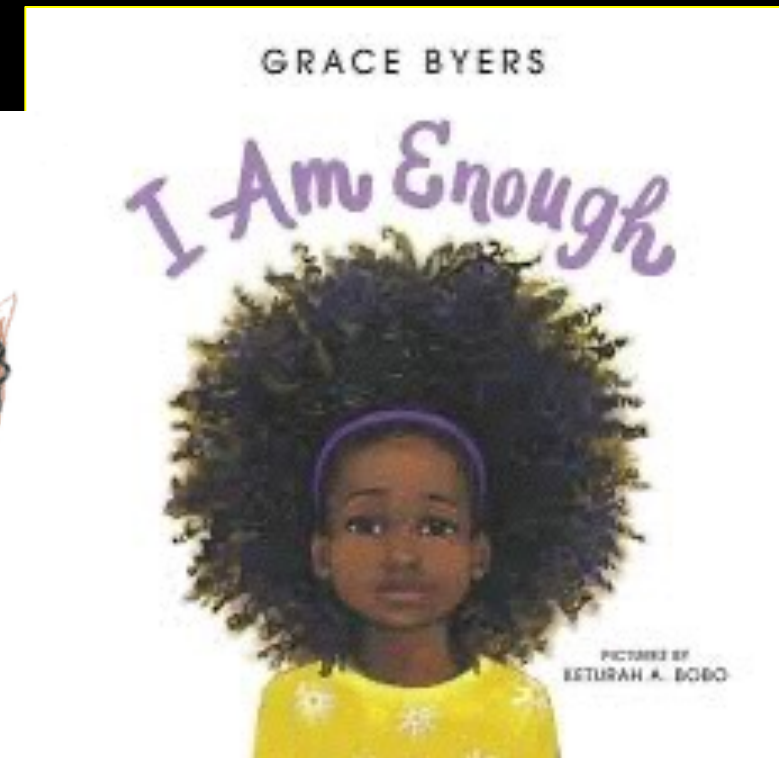
Keisha's Name Poem

Kindness
Energy
I am enough
Smart and sassy
Happy
Almost always.

GRACE BYERS

I Am Enough

PICTURES BY
KETURAH A. BOBO

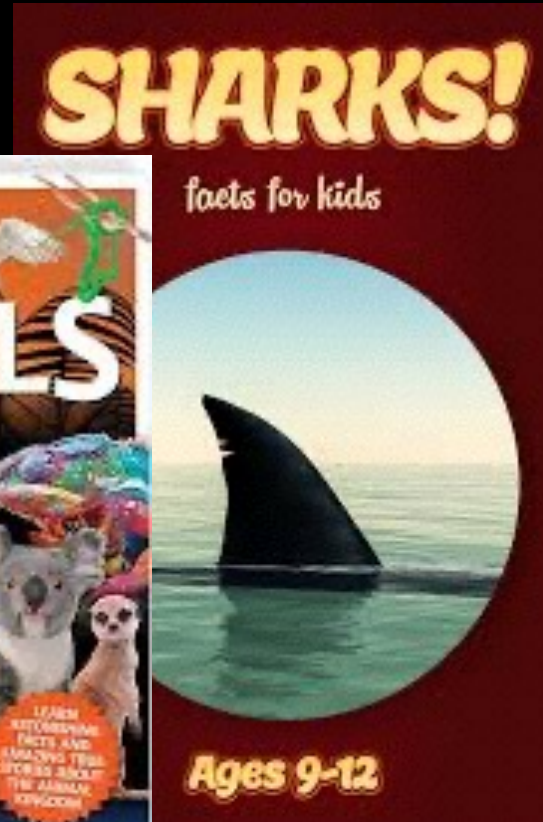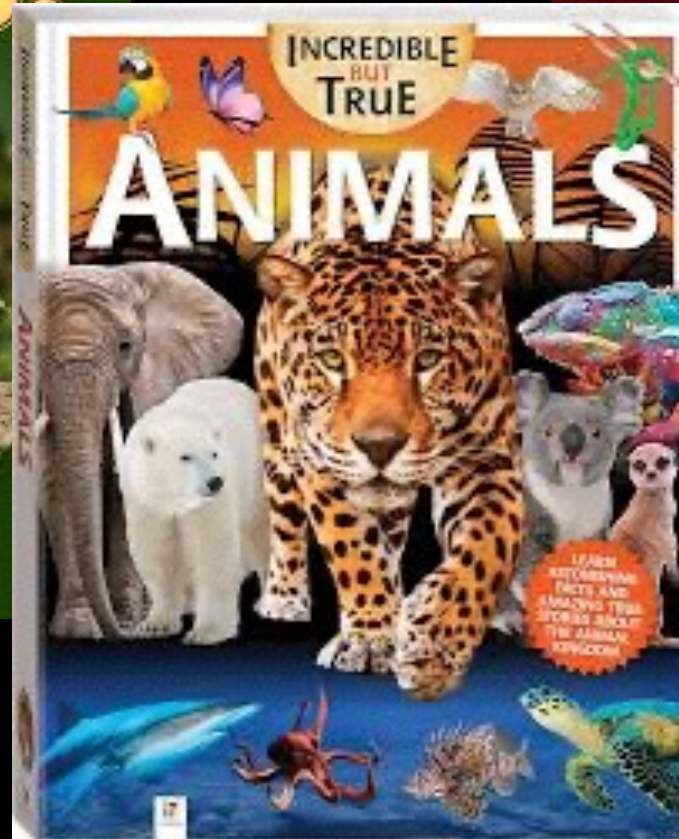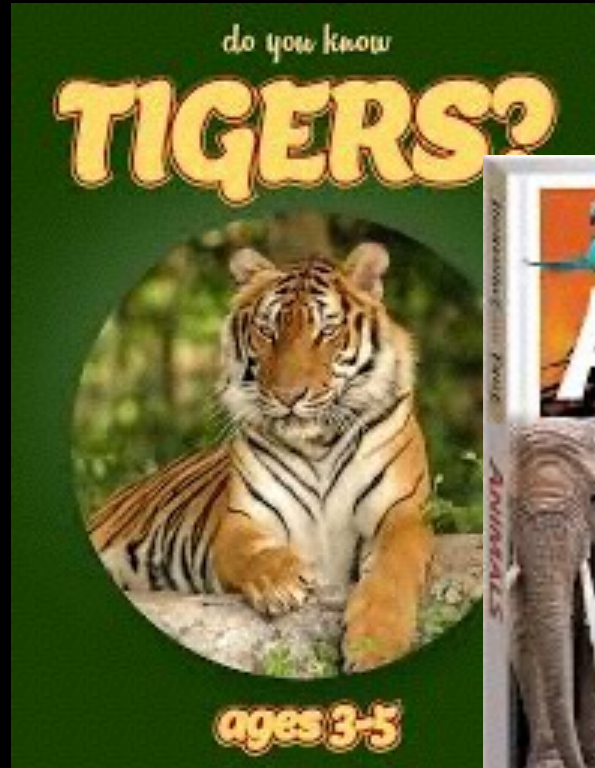| Citation	Gloss
Paley, V. G. (1979/1989). *White teacher.* Harvard University Press.	Paley documented her experiences and the lessons she learned as a teacher in a kindergarten classroom. After spending most of her teaching career teaching white children, Paley humbly reflected on her observations of and interactions with African American children and her efforts to include and honor these children. Her text describes missteps, struggles, and successes, always from a reflective stance.
Dyson, A. H. (2003). *The brothers and sisters learn to write: Popular literacies in childhood and school culture.* Teachers College Press.	Dyson invited readers into an early childhood classroom to explore the literacy learning of five African American children. Highlighting their textual play, she illustrated how children draw on texts from their lives – home, church, music, movies, TV, traditional games – as they write in school.
Willis, A. I. (2019). Race, response to intervention, and reading research. *Journal of Literacy Research, 51*(4), 394-419.	Willis drew on an analysis of historical documents to identify confluences between the history of reading education and special education. Specifically, she explored how contemporary discussions of RTI reflect sociopolitical antecedents, including a legacy of racism. As Willis explained, this legacy continues to be realized in narratives that frame how reading is understood, what counts as reading research, and who benefits from accepted approaches to reading instruction.
Muhammad, G. E., Mason Chisholm, G., & Starks, F. D. (2017). Exploring# BlackLivesMatter and sociopolitical relationships through kinship writing. *English Teaching: Practice & Critique, 16*(3), 347-362.	Mohammad and colleagues engaged 15 youth in kinship writing, a literacy practice within Black literary communities. These youth wrote politically charged poetry during a four-week summer writing program. Poems addressed multiple issues that affect Black lives including the "appropriation of black beauty, gun violence and police brutality, love and Black lives, the need for equality, negative depictions and people, the neglect and omission of Black lives and suppression of freedom" (p. 347).
Lee, A. (2024). The science of language and anti-Blackness: Accounting for Black Language in Reading Instruction, Interventions, and Assessment. Journal of Reading Recovery, 24(1), 5-15.	Focusing on the Black languages, Lee described how common literacy assessment practices and associated rubrics often privilege "colonial and anti-Black traditions" (p. 9). Analyzing a language rubric used in preK classrooms, she identified language standards contrary to Black Language practices including Eurocentric conversational rules, rules for noun/verb agreement, and the use of the possessive "s." She argued that treating language differences as problems and errors, yielded "inaccurate assessment data" (p. 14).

RACIAL DIFFERENCES

"…who builds this scientific evidence (i.e., the science of reading), and how might that evidence be enhanced by a more racially diverse cadre of researchers? What science is missed, ignored, overlooked, underexplored, misinterpreted, overgeneralized, and under-nuanced about reading when knowledge construction is not diverse and representative of the varied racial identities of students under study?" (Milner, 2020, p. S250)

SOCIOECONOMIC DIFFERENCES

Gabby's Self -Portrait

SOCIOECONOMIC DIFFERENCES

SOCIOECONOMIC DIFFERENCES

Taylor, D., & Dorsey-Gaines, C. (1988). *Growing up literate: Learning from inner-city families.* Heinemann.	Taylor and Dorsey-Gaines (1988) focused on students from an inner-city community who were considered to be successfully learning to read and write at school by their parents. This ethnographic study documented the challenges that faced alongside the strengths exhibited by their families. This study highlighted how structural and economic factors, limited community resources, and underfunded school funding affected the literacy learning of children
Chall, J. S., Jacobs, V. A., & Baldwin, L. E. (1990). *The reading crisis: Why poor children fall behind.* Harvard University Press.	Chall, Jacobs, and Baldwin (1990 focus on elementary children from low-income families, to explore why differences related to socioeconomic status affect reading achievement. They identify the *fourth grade slump* as a critical period. Rather than proposing different methods and materials for low-income children, they recommend a board program including an early focus on word recognition, systematic, explicit phonics, and the reading of connected text (i.e., basal readers, trade books, stories, informational texts).
Purcell-Gates, V. (1996). Stories, coupons, and the TV Guide: Relationships between home literacy experiences and emergent literacy knowledge. *Reading Research Quarterly, 31*(4), 406-428.	Working with low-income families, Purcell-Gates (1996) drew on home observations and literacy assessments to construct family narratives of families. She focused on how low-income families used print and explored relationships between the use of print and children's emergent literacy knowledge. She noted that children's understandings of print reflected the frequency of literacy events in the home and that parents became more intentionally involved in their children's literacy learning when the children began formal literacy instruction.
Hicks, D. (2002). *Reading Lives: Working-Class Children and Literacy Learning.* Teachers College Press.	Hicks documents the literacy engagements of working-class children and how those engagements are intertwined with children's personal histories as well as their relationships with the people they love. Tensions between home and school literacies, including deficit assumptions about working-class children, are documented and challenged based on counter narratives that highlight the strengths and abilities of working-class children.

SOCIOECONOMIC DIFFERENCES

"…problems arise when we ignore the social processes of (con)textual tying [how context affects children] and we take our traditional ways of thinking about literacy – the rigid hierarchies and taxonomies and predetermined sets of skills that we create – and place them in classrooms for children to learn." (Taylor & Dorsey-Gaines, 1988, p. 201)

LINGUISTIC DIFFERENCES

Carlos' Self-Portrait

LINGUISTIC DIFFERENCES

During morning meeting, Carlos' teacher invited the students to consider the following idiom in English – "you can't put lipstick on a pig" noting that it means that it meant that some things are just not attractive.

She compared this to an idiom in Spanish – "Even if the monkey dresses in silk, she's still a monkey" - noting its similar meaning.

Do you know a word like that in Spanish?

What is another way to say that?

Does that sound right in English?

What sound does "j" make in Spanish? In English?

What is the meaning of that word in Spanish? In English? Are they the same?

LINGUISTIC DIFFERENCES

Krashen, S. (1976). Krashen, S. D. (1976). Formal and informal linguistic environments in language acquisition and language learning. *TESOL Quarterly*, 157-168.	Krashen (1976) reviewed research related to language learning for adult ESL students, comparing language learned through acquisition versus language skills that are taught through instruction (e.g., learned). Through this analysis he noted that formal learning and informal language learning contexts contribute differently to the acquisition of a second language. Krashen poses the possibility that classrooms can be leveraged to support for language acquisition and learning.
Heath, S. B. (1983). *Ways with words: Language, life, and work in communities and classrooms*. Cambridge University Press.	Heath (1982) presented a linguistic ethnography of three communities in the American South—a middle-class town, a working-class white community, and a working-class black community. She audio recorded talk and documented literacy activities, documenting how literacy and language events vary across communities and highlighting the linguistically rich lives of children from historically underserved communities.
Fu, D. (2009). *Writing between languages: How English language learners make the transition to fluency, grades 4-12*. Portsmouth, NH: Heinemann.	Drawing on writing samples of English Language Learners collected over a decade, Fu (2009) described how recognizing the languages that children brought to classrooms could serve as tools for learning English. Specifically, she allowed children to write in their native languages and gradually increase their use of English over time as they gained oral proficiency and confidence.
Alvarez, A., & Butvilofsky. S. A. (2021). The biliterate writing development of bilingual first graders. *Bilingual Research Journal, 44*(2), 189-212.	Drawing on writing samples collected from 25 Spanish-English Latinx bilingual children, this study explores changes in spelling. Punctuation, use, grammar, cross language transfer, and the ideas children presented in their writing. While children initially displayed greater abilities in Spanish, over time Spanish/.English abilities became comparable

LINGUISTIC DIFFERENCES

Noguerón-Liu (2020) challenged the effectiveness of SoR for bilingual and multilingual children. By documenting the miscues and retellings of bilingual children, she described the translanguaging activities of bilingual children, describing their language approximations as agental, intelligent, and creative. She highlighted the abilities of bilingual/biliterate children as they learned to negotiate different ways of marking verb tense and making meaning across languages. As she noted, few studies referenced by SoR advocates involve emergent bilingual children or attend to the unique demands of learning to read in a new/additional language

LINGUISTIC DIFFERENCES

David Share (2021) worried that the *Science of Reading* was only a science of reading in English. As he noted:

". . .the field cannot indiscriminately generalize theories and findings to other languages and writing systems. Current frameworks for conceptualizing the challenges of learning to read across languages and orthographies (e.g., orthographic depth, psycholinguistic grain size theory) provide valuable insights into only one essential facet of a complex, multifaceted mosaic. Consideration of the complete picture of the world's writing systems reveals multiple dimensions of orthographic complexity, each liable to create obstacles for students learning to read and write. Furthermore, each of these dimensions has direct implications for practical issues such as assessment, diagnosis of difficulties, instruction, and intervention." (p. S398).

CULTURAL DIFFERENCES

Adam's Self-Portrait

I am looking at the Sckiee and I Meyde a smymyas in eid and I amo b hipp in Eid.

CULTURAL DIFFERENCES

Qibla Direction from ▓▓▓▓▓▓▓, United States — 47°

CULTURAL DIFFERENCES

Citation	Gloss
Gonzalez, N., Moll, L. C., Amanti, C., & Neff, D. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into practice, 31*(2), 132-141.	Working in Mexican-heritage communities near the Mexico–U.S. border, Moll and colleagues conducted ethnographic observations and open-ended interviews to document explore life histories of families. Along with his colleagues, he presented borderland experiences and differences as strengths that reveal complex household functioning and encouraged educators to capitalize on household and community resources in classrooms.
Lee, C. D. (1995). A culturally based cognitive apprenticeship: Teaching African American high school students skills in literary interpretation. *Reading Research Quarterly*, 608-630.	Drawing on data collected in six language arts classes in two urban high schools, Lee explores the effects of instruction that adopted a cognitive apprenticeship model to create opportunities for students to draw on familiar cultural and linguistic practices to interpret and analyze texts written by African American authors. Drawing on African American discourse patters – including signifying – resulted in learning gains supported by both qualitative and quantitative data.
Gregory, E., & Williams, A. (2002). *City literacies: Learning to read across generations and cultures.* Routledge.	Focusing on multicultural and multilingual neighborhoods of London, Gregory (2000) documented the literacy practices of children and families. She dispels myths that characterize these communities as non-literate, highlighting the involvement of parents in children's literacy activities, the potential of these literacies to inform what happens in schools, and the idea that there is one correct method of becoming literate.
Hare, J. (2012). 'They tell a story and there's meaning behind that story': Indigenous knowledge and young indigenous children's literacy learning. *Journal of Early Childhood Literacy, 12*(4), 389–414.	Drawing on group discussions with Indigenous family members, early childhood educators, and community members, Hare explored the need for culturally appropriate frames of reference and how children's learning might be supported by Indigenous knowledge. She described cultural knowledge as constantly evolving and as "dynamic and adapting over time and place" (p. 391). She scribed stories as a primary means of conveying cultural knowledge.

CULTURAL DIFFERENCES

"There is wide recognition of sociocultural theory as a relevance-based framework for teaching and learning. This assertion holds for socioculturally-based approaches to reading education for all students, and especially those from culturally and linguistically minoritized groups. Culturally and linguistically diverse students will continue having difficulties developing and demonstrating their reading competencies, including on standardized curricula and assessments that fail to account for sociocultural differences." (p. 341)

PHYSICAL DIFFERENCES

Lana's Self-Portrait

PHYSICAL DIFFERENCES

Self-Correction Rates

DHH children with syntactic impairment

DHH children with intact syntax

Hearing control group
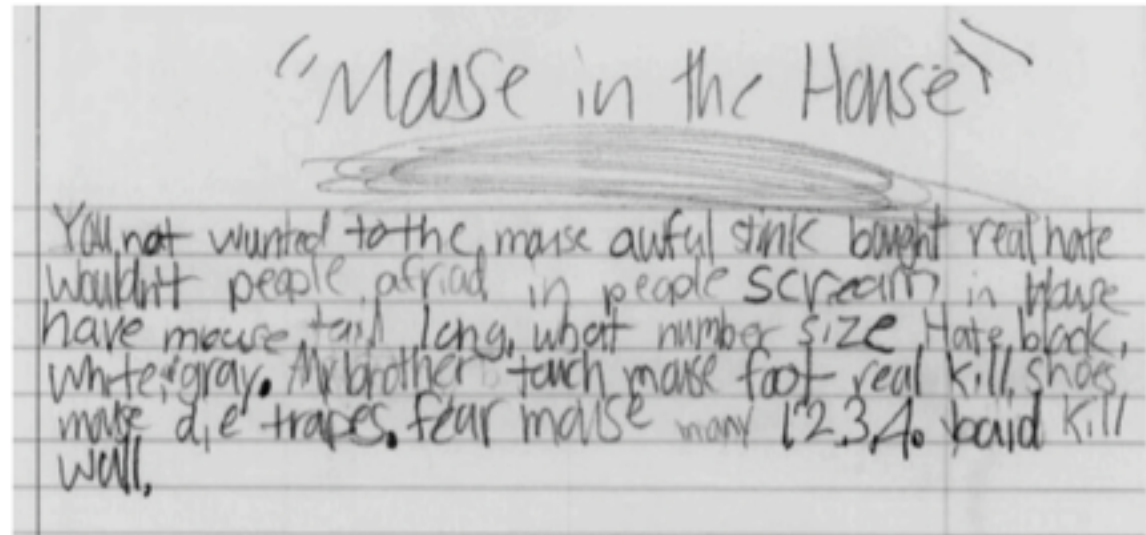
Signing deaf children
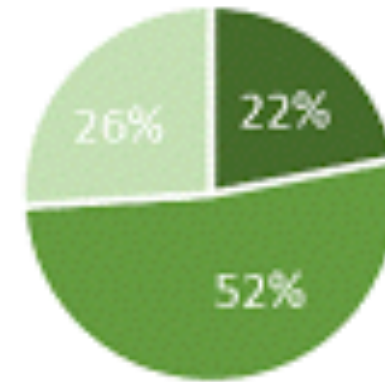
- Average readers — 22%
- Poor readers — 52%
- Extremely poor readers — 26%

Darien's Written Language Sample

From: Trezek (2015)

"You not wunted to the mouse awful stink bought real hate wouldn't people afraid in people scream in have mouse tail long. What number size Hate black white gray. My brother touch mouse foot real kill shoes mouse die traps. Fear mouse many 1, 2, 3, 4. baid Kill wall."

PHYSICAL DIFFERENCES

- Generally accurate spelling
- Inconsistent use of articles (e.g., the, a, an)
- Confuses "in" and "and"

Few pronouns or named subjects

Word order is not always consistent with English

"You not wunted to the mouse awful stink bought real hate wouldn't people afraid in people scream in have mouse tail long. What number size Hate black white gray. My brother touch mouse foot real kill shoes mouse die traps. Fear mouse many 1, 2, 3, 4. baid Kill wall."

EAT   **APPLE**   **HOME**   **YESTERDAY**

FIGURE 1   ASL signs for "eat," "apple," "home," and "yesterday." When reading the English sentence "I ate the apples at home yesterday," deaf readers translate the sentence into ASL and thus find the sentence relatively difficult to process because the signs in the translation are so similar in form (from Figure 3 in Treiman & Hirsh-Pasek, 1983).

PHYSICAL DIFFERENCES

Citation	Gloss
Goldin–Meadow, S., & Mayberry, R. I. (2001). How do profoundly deaf children learn to read?. *Learning Disabilities Research & Practice, 16*(4), 222-229.	This paper explores how profoundly deaf children learn to read. Focusing on children's familiarity with oral language and their abilities to map words onto text, the authors explore disadvantages that children face regarding access to the phonological code of alphabetic languages, including English. They explore the role played by oral language or sign language abilities (i.e., ASL, signed English) and the advantages that accompany learning sign language from birth.
Kaneko, Takeshi, (2004) (*Educational Activities Using of Picture Books for Blind Children: A Case Study*. NISE Bulletin 8, National Institute of Special Needs Education, 37-57.	This study documented one child's use of picture books that were specially designed for blind children. Introducing the same child to both books that included tactile (e.g., smooth, rough, and fluffy surfaces) and raised illustrative elements at two points in time (ages 3 and 6), Kaneko described the children approaches to these texts. He focused on hand movements that could be classified as searching, tracing, and the use of two hand simultaneously. Observing that after reading the child sometimes spontaneously re-enacted the stories, Kaneko surmised that these tactile interactions supported reading comprehension.
Burgstahler, S., Comden, D., Lee, S. M., Arnold, A., & Brown, K. (2011). Computer and cell phone access for individuals with mobility impairments: an overview and case studies. *NeuroRehabilitation, 28*(3), 183-197.	Burgstahler and her co-authors share a vast range of affordances and challenges that accompany computer and telephone access for individuals with physical mobility issues. Drawing on cases of three adults with neurological/mobility impairments, they describe technology found useful and posed recommendations for future product development. These challenges may be amplified for school-age children who are limited by the technologies available in classrooms and the access to these same technologies in their homes.
Trezek, B. J., & Mayer, C. (2015). Using an informal reading inventory to differentiate instruction: Case studies of three deaf learners. *American Annals of the Deaf, 160*(3), 289-302.	Using video recordings to document the use of spoken language and sign language, this study demonstrated the usefulness of informal reading inventories to observe the reading abilities and processing of deaf readers aged 10-11 years. Through case studies of three very different readers, they highlighted how informal reading inventories provided information about the children's reading proficiency while tracking the individual development of reading skills and abilities.

PHYSICAL DIFFERENCES

As Gabriel (2024) noted, "There is no single right way [to teach deaf and hard-of-hearing children], and those approaches that privilege or retrofit sound-focused pathways may not just be irrelevant but harmful to deaf learners" (p. 556).

What might we as reading scholars and educators learn about reading when we understand and appreciate how deaf children learn to read and write?
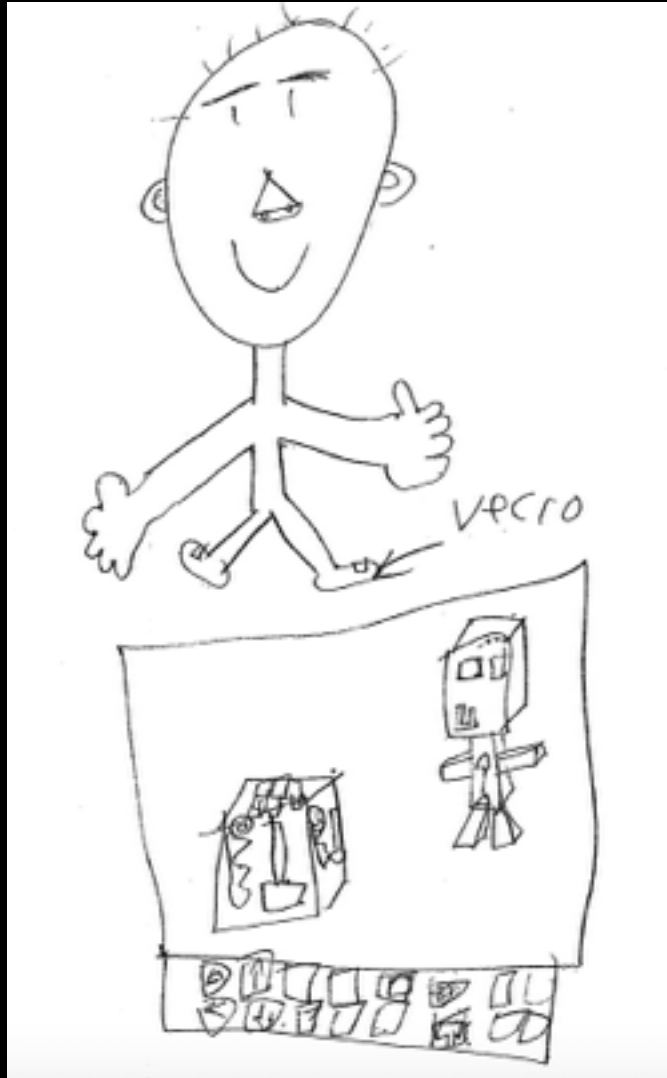
PHYSICAL DIFFERENCES

Coordination (e.g., holding books, using manipulatives, negotiating directionality, establishing left to right eye movement, tracking words with their finger)

Mobility (e.g., moving around the classroom, sitting on the rug, handling with text, negotiating technology)

Eyesight (e.g., seeing text, tracking text, reading online, lighting issues)

NEUROLOGICAL DIFFERENCES

James' Self-Portrait

NEUROLOGICAL DIFFERENCES

This is the classroom in the morning

James

I'm thinking of angry birds.

NEUROLOGICAL DIFFERENCES

Taylor, D. (1991). Learning Denied. Heinemann.	Taylor (1991) presents a detailed case study of Patrick, a student she follows through grades 1 and 2. She illustrates how standardized testing and normative expectations converged to position a capable child as deficit and deficient. Her account documents parents' involvement with the school's efforts to place Patrick in a special education classroom and their resistance to this decision.
Rogers, R. (2003). *A critical discourse analysis of family literacy practices: Power in and out of print.* Routledge.	Rogers (2003) explored how social class, race, and institutional power combined to position a young girl – Vicky – as low literate and as in need of special services. The politics of the process of labeling Vicky as learning disabled – despite her abilities to proficiently use language and literacy in her community and home - are documented. Rogers illustrates how learning disabilities can be constructed based on normative expectations and the effects of these processes can have on students and families.
Shalaby, C. (2017). On being Pigeonholed, In *Troublemakers: Lessons in freedom from young children at school (pp. 41-72).* The New Press.	Shalaby draws on the case of Lucas, a children diagnosed with ADHD. She describes how his creative and passionate responses to experiences, including books, are defined as deviant in classrooms and lead to frustrated efforts to label and characterize the differences he brought to classrooms. Shalaby celebrates Lucas' unique and powerful nature, alongside recognition of the challenges posed by school expectations.

NEUROLOGICAL DIFFERENCES

"SoR efforts are complicated when "the field situates challenges in learning to read through a [particular] special education lens." These framings fail to, or refuse to, recognize the "language and literacy assets, strengths, skills, dispositions, mind-sets, and practices. . . that racially and linguistically different students possess and bring to classrooms" (Milner, 2020, p. S250).

HUMAN DIFFERENCES

Liz's Self-Portrait

HUMAN DIFFERENCES

HUMAN DIFFERENCES

Citation	Gloss
Ashton-Warner, S. (1986). *Teacher*. Simon and Schuster.	Reporting on her teaching in a Māori community, Ashton-Warner described the proclivities and passions of individual her students. These differences reflected their individual joys, fears, and loves as well as the cultural values and practices of their community. Ashton-Warner emphasized the importance of centering literacy instruction on the words that are meaningful to individual children.
Clay, M. M. (1982). *Observing Young Readers: Selected Papers*. Heinemann.	In this early text, Clay examined a range of research studies related to various aspects of reading (e.g., self-correction, pitch and stress, syntax, orientation to print, cultural differences and reading, visual perception). Her primary conclusions about teaching reading highlight the need for close observation of individual children and the need to calibrate teaching to the reading processes and practices of children.
Carini, P. F. (2001). *Starting strong: A different look at children, school, and standards*. Teachers College Press.	Carini described the work of educators at *The Prospect School*, specifically the descriptive review process, which - in contrast to standardized and evaluative approaches - focused on "a particular child's strengths as a person, learner, and thinker" (p. 4). She maintained that this review process not only honored and supported children as learners but also honed teachers' powers to observe and understand the unique ways of being that each child brought to classrooms.

HUMAN DIFFERENCES

Writing in 1982, Marie Clay reminded us that children supplement our instructional efforts with their responses and that our job is to adapt to the individuality of children "more than any program description implies" (p. xii). Reading Recovery is individualized because no program can adapt to the differences that children bring. In *Literacy Lessons Designed for Individuals* (Clay 2005) - 23 years later – she dedicated an entire page to this idea.

HUMAN DIFFERENCES

And in the end
it is the individual adaptation
made by the expert teacher
to that child's idiosyncratic competencies
and history of past experiences
that starts him on the upward climb
to effective literacy performances.
(Clay, 2005, p. 63)

HUMAN DIFFERENCES

Clay, M. M. (1989). *Quadruplets and higher multiple births* (Vol. 107). Cambridge University Press.

HUMAN DIFFERENCES

months	2	3	4	5	6	7	8	9	10	11	12	13
ADAM	🍼					👶		🧍		🚶		
PIOTR	🍼							👶	🧍			🚶
ROMAN	🍼							👶	🧍			🚶
MONIESZKA	🍼							👶	🧍		🚶	
EWA	🍼				👶		🧍		🚶			

Fig. 5.1.

HUMAN DIFFERENCES

Fig. 5.4. Responses of the MZ Auckland quads at age 3 years to the 'Draw-a-Circle' task of the Stanford–Binet test.

Fig. 5.5. Responses of the MZ Auckland quads at age 7 years 3 months to the Frostig 'Copy-a-Design' task.

HUMAN DIFFERENCES

Fig. 5.7A. Hand movement possibilities when reading a book (Clay 1982).

⊡ Left hand
○ Right hand

Timing in change of reading behaviours for the MZ Auckland quadruplets

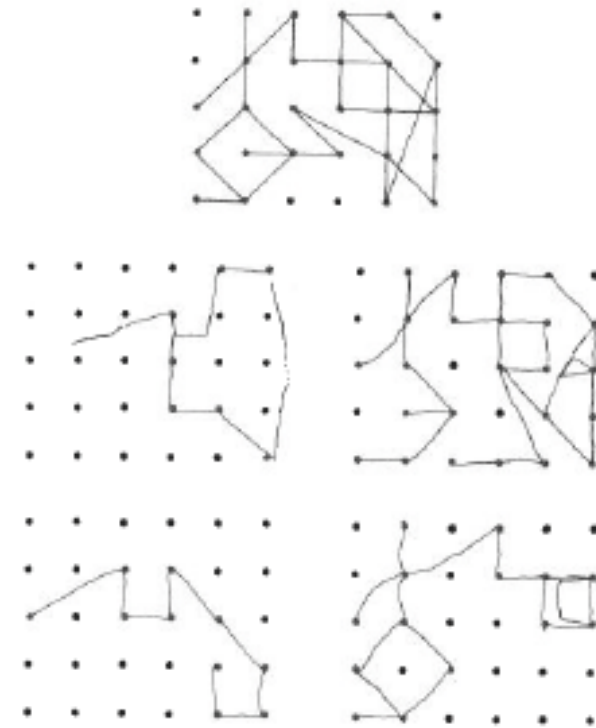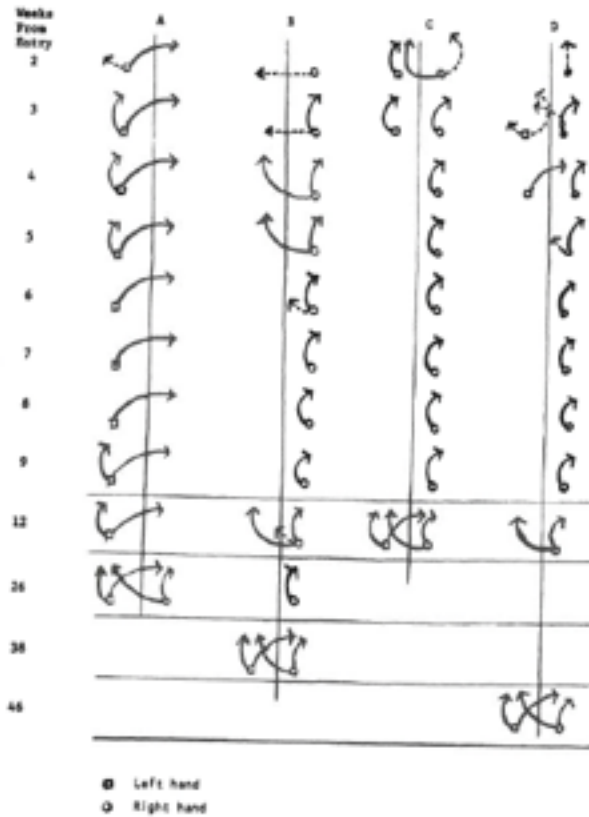| Behaviour	Weeks from school entry to mastery			
	A	B	C	D
Directional movement				
In reading	3	3	6	26
In writing	4	2	2	4
Use of hand				
Consistently one hand	2	4	5	2
Either hand	26	12	46	38
Book language				
Gramatically acceptable sentence	12	10	4	26
Modelled on book sentence	12	10	10	26
Control over sequencing				
Word-by-word	12	12	26	46
Accuracy over 80%	38	12	46	46
Accuracy over 90%	56	38	103	—
Self-monitoring				
One self-correction in 10 errors	26	12	46	46

Rank order of the MZ Auckland quadruplets on school attainment tests at ages 6:0, 7:3 and 12:3

Age	Test	Rank order			
		A	B	C	D
6:0	Reading	1	2	3	4
7:3	Reading	1	2	3	4
	Spelling	2	1	4	3
12:3	Listening comprehension	2	4	1*	2
	Reading comprehension	4	2	1*	3
	Reading vocabulary	3	1*	2*	4
	Mathematics	4	3	1	2

*Scores above 50th percentile for age.

disclaimer #1

Some of the children I describe may not be served in general education or intervention classrooms or they will have specialists who work with them on learning to read. However, in many cases - especially those related to racial, cultural, and linguistic differences - many children bring differences to regular classrooms. In the case of neurodiversity, young readers are often not yet diagnosed and provided with special educational services when they are first learning to read.

disclaimer #2

My goal is to offer a corrective to narrow and incomplete descriptions of the *Science of Reading* that present exaggerated, misleading, and at worse false claims promoted in the media by educational activists, publishers, and journalists. I am not dismissing research on how children learn to decode or quantitative studies that document the effects of reading interventions… Narrow policies, practices, and claims are dangerous because they deny the diversity of children served in North American classrooms.

CONCLUSIONS

While adding attention to differences to the Science of Reading might be possible, it would require fundamental changes to claims espoused by *Science of Reading* advocates. The following claims MUST be QUESTIONED:

- heavy doses of phonics and phonemic awareness are universally appropriate for all children,
  - scripted curriculum is appropriate,
  - narrow instructional mandates from districts and state education departments are valid, and
  - educators should value fidelity over flexibility.

While adding attention to differences to the Science of Readi[ng] be possible, it would require fundamental changes in claims espoused [by] [r]eading advocates, and the following claims MUST be QUE[STIONED]

- heavy doses of phonics and phonemic a[wareness are appro]priate for all children,

- scripted curriculum is app[ropriate]

- narrow instruction[al programs mandated by] state education departments are valid, and

- educato[rs must accept] flexibility.

These claims are false and antithetical to child-centered instruction

The *Science of Reading* is not settled, mostly due to human diversity.

CONCLUSIONS

"The problem lies in the instruction not accommodating the student's unique complexities." Johnston and Scanlon (2020) advocated for a "thorough analysis of instructional interactions" between children and their teachers with attention to the unique backgrounds, opportunities, knowledges, and interests that children bring to classrooms. (p. 17).

CONCLUSIONS

When SoR advocates blame teachers for reading families within underserved communities, they shift the lens of research and public concern away from historical and contemporary inequalities (e.g., income differences, housing, nutrition, educational opportunities) relieving communities and society from fiscal and humanitarian obligations.

CONCLUSIONS

"Instead of providing financial or social support for impoverished families and communities, legislators discussed literacy reform as a means of ensuring that those who come from historically underserved communities could "take care of themselves," "find employment," and "move out of poverty." In the chain of SOR signifiers, "explicit phonics instruction" became a substitution for investing in communities and creating the safety nets that were necessary for families to climb out of poverty." (Aydarova, 2023, p. 573)

EQUALITY VERSUS EQUITY

Equality in reading classrooms means providing all children with the same curriculum and activities, regardless of their abilities or other individual differences
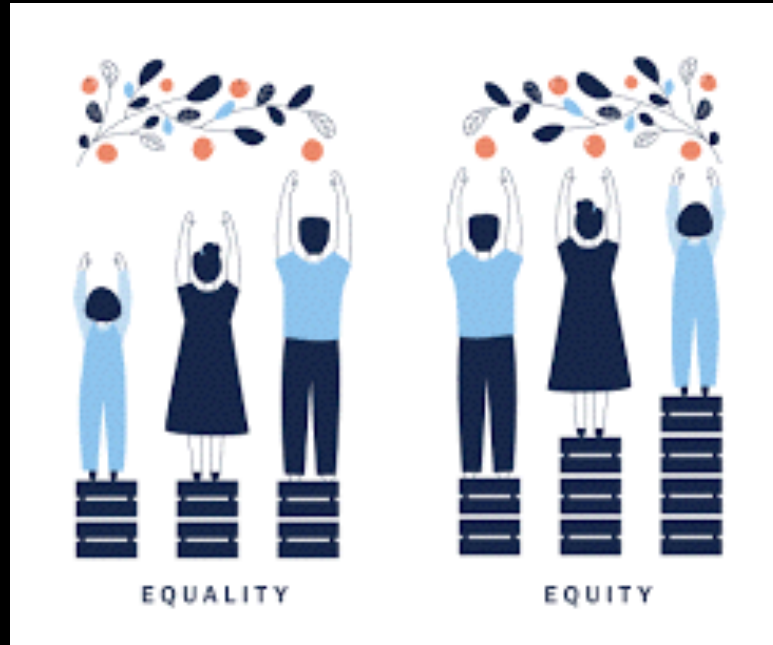
Equity in reading classrooms means that all children is provided with resources and experiences specific to their abilities and goals.

HUMAN DIFFERENCE IS AN INCONVENIENT TRUTH

Thank you for listening. . .

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Compton-Lilly, C., Spence, L. K., Thomas, P. L., & Decker, S. L. (2023). Stories grounded in decades of research: what we truly know about the teaching of reading. *The Reading Teacher*, *77*(3), 392-400.

Compton-Lilly, C., Spence, L. K., Thomas, P. L., & Decker, S. L. (2024). A Response to our Critics: Agreements, Clarifications, and Children. *The Reading Teacher*, (published online)