**50th Everyone Reading Conference**
on Dyslexia and Related Learning Disabilities

**Closing Considerations - Anita L. Archer, PhD**

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**The Science of Reading**

**Plus**

**The Science of Instruction**

"The 'science of reading' refers to a vast body of multidisciplinary research providing a rationale for ==what must be taught== to ensure almost all students can learn to read."

"I wonder, however, if this movement will be enough to advance more effective literacy instruction; it may not be, unless ==teaching practices== themselves receive more attention." Dr. Louisa Moat, EDVIEW360 Blog

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**Universal Outcome**

**Learning**
  **Learning**
    **Learning**
      **Learning**
        **Learning**
          **Learning**

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**Universal Outcome**

**Teaching** ➡ **Learning**
  **Teaching** ➡ **Learning**
    **Teaching** ➡ **Learning**
      **Teaching** ➡ **Learning**
        **Teaching** ➡ **Learning**
          **Teaching** ➡ **Learning**

"No system or district in the world has made significant gains for students without a **relentless** focus on the learning and teaching process."

Fullan & Quinn, 2016

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## What is Explicit Instruction?

- Explicit instruction is a <mark>systematic instructional approach</mark> that includes a set of <mark>design and delivery</mark> **procedures** derived from effective schools research……….

  *Ideas that Work*

- …<mark>**unambiguous**</mark> and <mark>**direct**</mark> approach to teaching that incorporates instruction design and delivery.

  Archer & Hughes, 2011

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## What is Explicit Instruction?

"Explicit teaching is not just the episode within a lesson when information is presented; it involves **chunking content** into small components, **guiding students' initial attempts** at working with that content and **gradually releasing control** into more open activities as students gain mastery. It is a teaching model that progresses from **'I do' to 'we do' to 'you do.'**

Adam Boxer, Editor 2019
Explicit & Direct Instruction

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## Why Explicit Instruction?

- The **People of the State of New York**, represented in Senate and Assembly, do enact as follows:
Section 1. Section 305 of the education law is amended by adding a new subdivision 57 to read as follows:

  57. The commissioner shall establish and enforce rules and regulations requiring every institution of **higher** education that offers a graduate or undergraduate degree or certification program in education or educa-tional administration located within the state to incorporate at least a three-credit course devoted to the instructional techniques necessary for effective literacy instruction. Such course shall impart to prospec-tive and current teachers language-based, **effective methods of teaching reading**, which shall include instruction in delivering **structured, systematic, explicit, evidence-based instruction in reading**, including but not limited to those incorporating multisensory instruction, also known as structured literacy, within the current required literacy curriculum.

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## When should Explicit Instruction be used?

Explicit Instruction should be used when:

- When students have little or no background knowledge
- When students are novices not experts
- When content is new
- When content requires specific order
- When students have experienced difficulty learning information

- *"There is **always** something that can be taught explicitly."* *Sharon Vaughn, 2021*

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## 50 years of research supports Explicit Instruction

## IES Practice Guides

***Foundational Skills* to Support Reading for Understanding in Kindergarten Through 3rd Grade** (2016)

**Teach** students to decode words, analyze word parts, and write and recognize words.

**Teach** students academic language skills, including the use of inferential and narrative language, and vocabulary knowledge.

***Teach Elementary School Students to Be Effective Writers*** (2012)

**Teach** students to use the writing process for a variety of purposes.

**Teach** students to become fluent with handwriting, spelling, sentence construction, typing, and word processing.

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## IES Practice Guides

***Improving Reading Comprehension in Kindergarten Through 3rd Grade*** (2010)

**Teach** students how to use reading comprehension strategies.

**Teach** students to identify and use the text's organizational structure to comprehend, learn, and remember content.

***Assisting Students Struggling with Reading: Response to Intervention (RtI) and Multi-Tier Intervention in the Primary Grades*** (2009)

Provide intensive, **systematic instruction** on foundational reading skills in small groups to students who score below the benchmark score on universal screening.
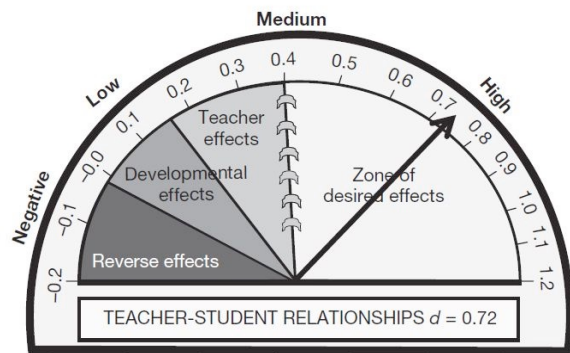
***Providing Reading Interventions for Students in Grades 4 – 9*** (2023)

- Build students' decoding skills so they can read complex multisyllabic words.
- Provide purposeful fluency-building activities to help students read effortlessly.
- Routinely use a set of comprehension-building practices to help students make sense of the text.

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## John Hattie (2019)



Medium

Low / High

Negative

Teacher effects

Developmental effects

Zone of desired effects

Reverse effects

TEACHER-STUDENT RELATIONSHIPS $d = 0.72$

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## Hattie, 2019

| Variables Related to Explicit Instruction | d | Variables Related to Explicit Instruction | d |
|---|---|---|---|
| Explicit Teaching Procedures | .57 | Scaffolding | .58 |
| Direct Instruction | .59 | Response to Intervention | 1.09 |
| Mastery Learning | .61 | Collective Teacher Efficacy | 1.57 |
| Goals | .51 | Teacher-Student Relationships | .52 |
| Clarity | 1.09 | Teacher Credibility | 1.09 |
| Questioning | .48 | **Comparisons** | |
| Classroom Discussions | .82 | Whole Language | .06 |
| Feedback | .66 | Discovery-Based Teaching | .21 |
| Deliberate Practice | .79 | Problem-based Learning | .35 |
| Rehearsal and Memorization | .65 | Student Control over Learning | .02 |
| Spaced Practice | .65 | | |
| Retrieval Practice | .46 | | 12 |

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## Elements of Explicit Instruction

1. Focus on critical content to promote **Learning**.

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## The Science of Reading – Topics

**READING**

**Phonemic Awareness**
    Accurate Production of Phonemes
    Blending
    Segmenting

**Decoding**
    Letter/Sound Associations
    Decoding Single Syllable Words – Continuous Blending
    Decoding Multisyllabic Words

**Fluency**
    Accuracy
    Appropriate Rate
    Prosody

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## The Science of Reading

**READING**

**Vocabulary**

    Selection of Vocabulary

    Vocabulary Instruction

    Word Learning Strategies

        Context Clues

        Morphology

**Background Knowledge**

    General World Knowledge

    Passage Background Knowledge

**Comprehension**

    Questions

    Strategies to Focus Student Attention

    Sentence Comprehension

    Passage Comprehension

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## The Science of Writing

**WRITING**

**Foundation Skills – Accuracy and Appropriate Rate**

    Handwriting

    Spelling

    Keyboarding

**Writing**

    Writing Process: Plan – Draft – Revise – Edit

    Composing Sentences

    Composing Paragraphs

    Composing Multi-Paragraphs

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## Slide 17

1. Focus on critical content to promote **Learning**.

**Focus on correct content to promote LEARNING.**



Google Curiosity: Google – Decoding Strategies Kindergarten. Look at first 50 images. Count the number that direct the student to guess based on the picture or first sound? Answer 49

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## Slide 18

1. Focus on critical content to promote **Learning**.

**Two realities of English**
1. 80% of multisyllabic words have an affix.
2. Every word part contains one vowel sound.

**Strategies for Reading Long Words**

**Overt Strategy**
1. Circle the prefixes.
2. Circle the suffixes.
3. Underline the vowels.
4. Say the parts of the word.
5. Say the whole word.
6. Make it a real word.

EXAMPLE

reconstruction

*REWARDS Voyager/Sopris*

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1. Focus on critical content to promote **Learning**.

**Getting the Gist**

1. **Name the who or what the paragraph is about in a brief phrase.**

2. **Identify two or three important details about the topic.**

3. **"Shrink" the paragraph by stating or writing the main idea.** (Say it in 10 to 15 words)

(From Vaughn, et. al. Collaborative Strategic Reading)

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1. Focus on critical content to promote **Learning**.

Archerism:

*Teach the stuff and cut the fluff.*

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**Elements of Explicit Instruction**

2.  Break down complex strategies into obtainable pieces to ensure **LEARNING.**

**Be aware of cognitive overload.**

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2.  Break down complex strategies into obtainable pieces to ensure **LEARNING.**

**Phonological Awareness Skills** (Kilpatrick, 2019)
- **Early**
  - rhyming
  - alliteration
  - segment words into syllables
  - identify initial sound in word
- **Basic**
  - blending sounds into words
  - segmenting words into sounds
- **Advanced**
  - manipulating phonemes
  - deleting, adding, substituting

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## 2. Break down complex strategies into obtainable pieces to ensure **LEARNING.**

**Example Sequence of Phoneme - Grapheme Associations**

(IES Practice Guide – *Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade, 2016*)

- **Single consonant and vowel letters**
  a m t s i f d r o g l h u c b n k v e w j p y x q z (Carnine, Silbert, and Kame'enui, 1997)

- **Consonant blends**
  bl cl fl gl pl sl
  cr dr gr pr tr br fr
  sm sp st sw sc

- **Consonant digraphs**
  th sh ch ph ng tch dge

- **Long vowels with silent e**
  a-e i-e o-e u-e e-e

- **Two-letter vowel teams** (combination of letters standing for single vowel sound)
  ai ay ea ee ey oa ie igh

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## 2. Break down complex strategies into obtainable pieces to ensure **LEARNING.**

| Syllable Pattern | Single Syllable Words | Multi-Syllable Words |
|---|---|---|
| **Closed Syllables**<br>VC CVC CCVC CVCC<br>A syllable with a short vowel, spelled with a single vowel letter ending in one or more consonants. | am, sat, brat, math | rab bit,  in sect,<br>nap kin,  top ic,  pun ish,<br>kit ten |
| **Open Syllables**<br>CV CCV<br>A syllable that ends with a long vowel sound, spelled with a single vowel letter. | me, he, she, hi<br>no, go, ho | pro test, tor na do,<br> si lent, hu man, ro bot, re lax |
| **Silent e**<br>CVCe CCVCe<br>A syllable with a long vowel, spelled with one vowel + one consonant + silent e. | mine, cave, ripe,<br>tape, shape, whale,<br>shine | in vite, ex cite, pan cake,<br>man hole, in side, nick name |

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**Decoding Single Syllable Words** (Moats, L and Tolman, C. 2009, *Language Essentials for Teachers of Reading and Spelling (LETRS),* Sopris/Voyager*)*

| Syllable Pattern | Single Syllable Words | Multi-Syllable Words |
|---|---|---|
| Vowel Team CVVC  CCVVC  CVVCC Syllables with long or short vowel spellings that use two to four letters to spell the vowel. Diphthongs ou/ow and oi/oy are included in this category. | rain, mail, deal, clean, speed, scream, least | train er, spoil age, mail man, rain bow, ex haust, pro ceed |
| Vowel-r A syllable with er, ir, or, ar, or ur. Vowel pronunciation often changes before /r/. | barn, fern, bird, torn, yard | per form, yard stick, sports man, sur plus, morn ing, dis turb |
| Consonant –le An unaccented final syllable that contains a consonant before /l/, followed by a silent e | | mid dle, pud dle, ma ple, can dle, fid dle, ea gle |

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2.  Break down complex strategies into obtainable pieces to ensure **LEARNING.**

(Relationship of fractions, decimals, and percents.)
1)  Write decimals as fractions.
2)  Write decimals as fractions and mixed numbers.
3)  Write fractions as decimals.
4)  Write fractions and mixed numbers as decimals.
5)  Write percents as fractions.
6)  Write fractions as percents.
7)  Write percents as decimals.
8)  Write decimals as percents.

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2. Break down complex strategies into obtainable pieces to ensure **LEARNING.**

Archerism**:**

**Success breeds Success**
**Success breeds Motivation**

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**Elements of Explicit Instruction**

3. Provide quality explicit instruction lessons that yield **learning**.

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## 3. Provide quality explicit instruction lessons that yield **LEARNING.**

• Utilizing **explicit instruction** procedures.

|  | Hattie Effect Size |
|---|---|
| Explicit Instruction Procedures | 0.57 |
| Direct Instruction | 0.60 |
| Mastery Learning | 0.57 |

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## 3. Provide quality explicit instruction lessons that yield **LEARNING.**

- **Opening**
  - **Attention** *Gain attention.*
  - **Review** *Review critical preskills and knowledge. (Retrieval)*
  - **Preview** *Communicate purpose of the lesson or activity.*
- **Body**
- **Closing**
  - **Review** *Use retrieval practice to review lesson content.*
  - **Preview** *Preview content of next lesson.*
  - **Independent Work**

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**3**. Provide quality explicit  instruction lessons that yield **LEARNING.**

•Utilizing **explicit instruction** procedures.

•**Strategies and Skills** (How to do something)

• **Demonstration**                **I do it.**
• **Guided Practice**              **We do it.**
• **Checking understanding**  **You do it.**

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**3**. Provide quality explicit  instruction lessons that yield **LEARNING.**

•Utilizing **explicit instruction** procedures.

**Vocabulary Routine** (What it means)
1. **Introduce the pronunciation of the word.**
2. **Introduce the meaning of the word.**
3. **Illustrate the word with examples.**
    (Examples and non-examples)
4. **Check for understanding.**

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**3**. Provide quality explicit instruction lessons that yield **LEARNING.**

**Clarity - Effect Size 1.09**

- <mark>Clarity</mark> – Goal (Learning Intentions, Success Criteria)
- <mark>Clarity</mark> - Organization (space, time, curriculum, lessons)
- <mark>Clarity</mark> - Expectations (rules, routines)
- <mark>Clarity</mark> - Explanations (critical content, activities, assignments, assessments)
- <mark>Clarity</mark> – Demonstrations (how to do something)
- <mark>Clarity</mark> - Guided Practice

Fendick & Titsworth

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**3**. Provide quality explicit instruction lessons that yield **LEARNING.**

Archerisms:

*How well I teach = How well they learn*
*How well they learn = How well I taught*

**I do it.  We do it.  You do it.**
**I do.     We do.     You do.**

**Routines Routines Routines Routines Routines**

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**Instructional Cycle**

- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**
- **Input Question Response Monitor Feedback Adjust**

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**Elements of Explicit Instruction**

4. Actively involve all students in responding throughout the lesson, making **LEARNING** visible.

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## Opportunities to Respond – WHY?

**Clear and Consistent Research Results:**

**Increases time on task**
**Increases academic achievement (Learning)**
**Decreases disruptive behaviors**
**Increases intensity of interventions**

Research Review of 15 studies
Mac Suga-Gage & Simonsen, 2015

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## Opportunities to Respond – How

**Guidelines for Response Rates**

• 70% of responses unison  (all say, write, do)

• 30 % individual responses (non-volunteers)
    (Haydon, et al., 2010; Stevens & Rosenshine, 1981)

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## Opportunities to Respond – How Many

**Guidelines for Response Rates – Current Research**

(Mac Suga-Gage and Simonsen, 2015; Simonsen and Myers, 2015)

**Effective teachers elicit:**

**Simple Responses**

- Such as: unison choral responses, gesture, response cards
- 3 to 5 opportunities to respond per minute

**More Complex Responses**

- Such as: partner sharing, written answer, math problem
- At least 1 opportunity to respond per minute

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## Elicit frequent responses

| Verbal Response Procedures | Inclusive Passage Reading |
| --- | --- |
| Unison Choral | Silent Reading (Whisper Read) |
| Partners | Choral Reading |
| Teams/Huddle Groups | Cloze Reading |
| Individual (NO volunteers) | Echo Reading |
| Discussion | Partner (Me or We) |
| **Written Response Procedures** | Literacy Circles |
| Short Written Responses | |
| Whiteboards | |
| Guided Notes | |
| **Action Response Procedures** | **Use of Technology** |
| Acting out | |
| Touching/Pointing | |
| Gestures | |
| Facial Expressions | |
| **Hold Ups** | |
| White Boards | |
| Hand Signals | |
| Response Cards/Response Sheets | |

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4. Actively involve all students in responding throughout the lesson, making **LEARNING** visible.

**Archerisms:**

*Learning is not a spectator sport.*

*Every day, in every class, every student participates by saying, writing, and/or doing.*

*Everyone does Everything.*

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**Elements of Explicit Instruction**

5. Carefully monitor students' responses, adjusting the lesson as necessary to ensure **LEARNING.**

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**5. Carefully monitor students' responses, adjusting the lesson as necessary to ensure LEARNING.**

Archerisms:

**Look carefully**

**Listen carefully**

Circulate and monitor

**Walk around**

**Look around**

**Talk around**

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**Elements of Explicit Instruction**

6. Provide affirmative feedback (praise), informative feedback, and corrections to support **LEARNING.**

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**6.** Provide affirmative feedback (praise), informative feedback, and corrections to support **LEARNING.**

|  | Hattie Effect Size |
|---|---|
| Feedback | .70 |

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6. Provide affirmative feedback (praise), informative feedback, and corrections to support **LEARNING.**

Archerisms:

*Feedback feeds forward.*

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**7. Maintain a brisk pace that enhances student attention, concentration, and Learning.**

- Prepare for the lesson.

- Use instructional routines.

- When you get a response, move on.

- Avoid verbosity.

-  Avoid digressions.

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**7. Maintain a brisk pace that enhances student attention, concentration, and Learning.**

*Archerism:*

Perky not Pokey.

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**Elements of Explicit Instruction**

8. Provide deliberate practice, retrieval practice, and spaced practice to ensure retention and **LEARNING**.

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8. Provide deliberate practice, retrieval practice, and spaced practice to ensure retention and **LEARNING**.

**Deliberate practice** is goal-oriented practice consciously devoted to improvement of a skill.

**Retrieval practice** is a learning strategy in which students must retrieve information from memory.

**Spaced practice** (also known as distributed practice) is a learning strategy, where practice is broken up into several short sessions - over a longer period of time.

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8. Provide deliberate practice, retrieval practice, and spaced practice to ensure retention and **LEARNING**.

| Practice | Hattie Effect Size |
|---|---|
| **Deliberate Practice** | 0.79 |
| **Retrieval Practice** | 0.74 |
| **Spaced Practice** | 0.60 |

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8. Provide deliberate practice, retrieval practice, and spaced practice to ensure retention and **LEARNING**.

Archerisms:

~~*Practice makes perfect.*~~

*Perfected practice over time makes perfect and permanent.*

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**Elements of Explicit Instruction**

8.   Utilize management procedures that support students and teachers, thus facilitating **LEARNING.**

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9.   Utilize management procedures that support students and teachers, thus facilitating **LEARNING.**

Archerisms:

**Teach predictable routines.**     *Predictability predicts ability.*
**Provide pre-corrections.**     *If you expect it, pre-correct it.*
**Provide acknowledgement.**     *Catch them being good.*
**Maintain a perky pace.**     *Avoid the void for they will fill it.*

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**Elements of Explicit Instruction**

10. Intentionally establish positive teacher-student relationships that support **LEARNING** in the  classroom.

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10. Intentionally establish positive teacher-student relationships that support **LEARNING** in the classroom.

Connect.  Connect.  Connect.

**Be kind.**
**Be kind.**
**Be kind.**
**Be kind.**

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## Elements of Explicit Instruction

Every day, in every class, in every lesson, we will:

1. Focus on critical content to promote **LEARNING.**

2. Break down complex strategies into obtainable pieces to ensure **LEARNING.**

3. Provide quality explicit instruction lessons that yield **LEARNING.**

4. Actively involve all students in responding throughout the lesson, making **LEARNING** visible.

5. Carefully monitor students' responses, adjusting the lesson as necessary to ensure **LEARNING.**

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## Explicit Instruction

6. Provide affirmative feedback (praise), informative feedback, and corrections to support **LEARNING.**

7. Maintain a brisk pace that enhances student attention, concentration, and **Learning.**

8. Provide deliberate practice, spaced practice and retrieval practice to ensure mastery, retention, and **LEARNING**.

9. Utilize management procedures that support students and teachers, thus facilitating **LEARNING.**

10. Intentionally establish positive teacher-student relationships that support **LEARNING** in the classroom.

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## Slide 59

Anita Archer's "Archerisms"

# Explicit Instruction

Teach the *stuff* and cut the fluff.

How well I teach = How well they learn

I do it. We do it. You do it.

Learning is not a spectator sport.

Everyone does Everything

Look carefully. Listen carefully.

Walk around. Look around. Talk around.

*FEEDBACK FEEDS FORWARD*

Perfected practice over time makes perfect and permanent.

Predictability predicts ability

If you expect it, pre-correct it.

Avoid the void, for they will fill it.

Teach with passion.
Manage with compassion.

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## Slide 60

Recommended Reading

*Topic: Explicit Instruction*

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Explicit Instruction:  Effective and Efficient Teaching

Anita L. Archer  and Charles A. Hughes
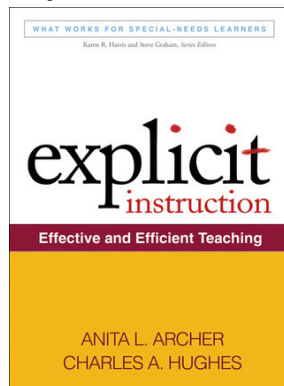
WHAT WORKS FOR SPECIAL-NEEDS LEARNERS

Karen R. Harris and Steve Graham, *Series Editors*

explicit
instruction

**Effective and Efficient Teaching**

ANITA L. ARCHER
CHARLES A. HUGHES

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How Teaching Happens
Seminal Works in Teaching and Teacher Effectiveness and What They Mean in Practice
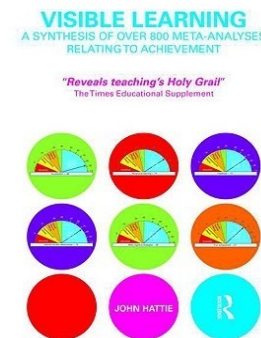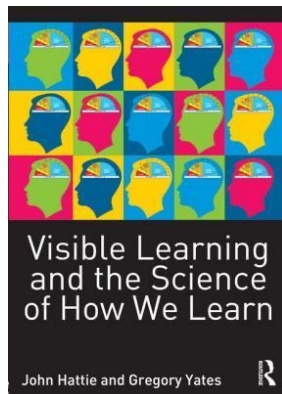Paul A. Kirschner, Carl Hendrick, &

HOW TEACHING HAPPENS
Seminal Works in Teaching and
Teacher Effectiveness and
What They Mean in Practice

PAUL A. KIRSCHNER, CARL HENDRICK
& JIM HEAL

A David Fulton Book

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How We Learn

Stanislas Dehaene
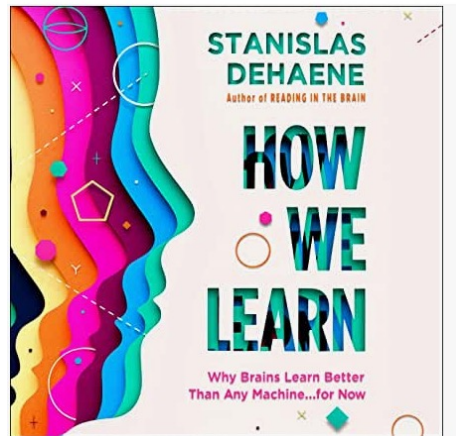


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Visible Learning     (Watch for New Edition)

A Synthesis of Over 800 Meta-Analyses Relating to Achievement

John Hattie



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Visible Learning and the Science of How We Learn
John Hattie
Gregory Yates



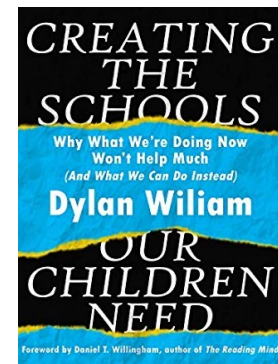65

The Hidden Lives of Learners
Graham Nuthall



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Powerful Teaching                        www.retrievalpractice.org

Unleash the Science of Learning

Pooja K. Agarwal

Patrice M. Bain



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Understanding How We Learn: A Visual Guide     learningscientists.org

Yana Weinstein and Megan Sumeracki



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Embedded Formative Assessment

Dylan Wiliam



Creating the Schools Our Children Need

Dylan Wiliam



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Make it Stick
The Science of Successful Learning
Peter C. Brown
Henry L. Roediger III
 Mark A. McDaniel

make it stick

The Science of Successful Learning

Peter C. Brown
Henry L. Roediger III
Mark A. McDaniel
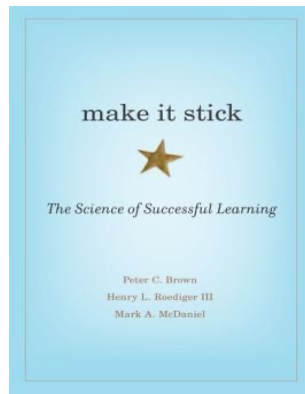
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Why Don't Students Like School?
Daniel  T. Willingham

DANIEL T.
WILLINGHAM
WHY DON'T
STUDENTS
*Like*
SCHOOL?

A COGNITIVE SCIENTIST
ANSWERS QUESTIONS ABOUT HOW
THE MIND WORKS AND WHAT IT
MEANS FOR THE CLASSROOM
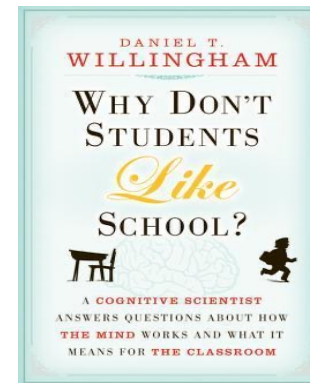
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Teach Like a Champion 30: 63 Techniques that Put Students on the Path to College

Doug Lemov, Michael Butler Murray, et al.
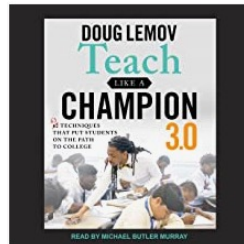


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Tackling Attendance Challenges



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**Additional Summaries of Best Practices and Research**

Practice Guides

https://ies.ed.gov/ncee/wwc/PracticeGuides

*Practice Guides*. A *practice guide* is a publication that presents recommendations for educators to address challenges in their classrooms and schools. They are based on reviews of research, the experiences of practitioners, and the expert opinions of a panel of nationally recognized experts.
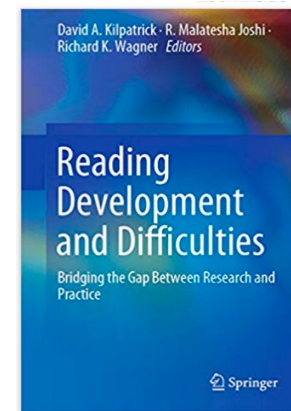
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Recommended Reading

*Topic: Reading Instruction*

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LETRS Volume 1 and 2
Louisa C. Moats
Carol A. Tolman



Reading Development and Difficulties: Bridging the Gap Between Research and Practice

Editors: David A. Kirkpatrick, R. Malatesha Joshi and Richard K. Wagner



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The Reading Mind
A Cognitive Approach to Understanding How the Mind Reads
Daniel T. Willingham

THE READING MIND:
A Cognitive Approach to
Understanding How the Mind
Reads. Daniel T. Willingham,
Author of *Why Don't Students
Like School?* The Reading
Mind: A Cognitive Approach to
Understanding How the Mind
Reads. **Daniel T. Willingham,**
Author of *Why Don't Students
Like School?* The Reading

JOSSEY-BASS
A Wiley Brand
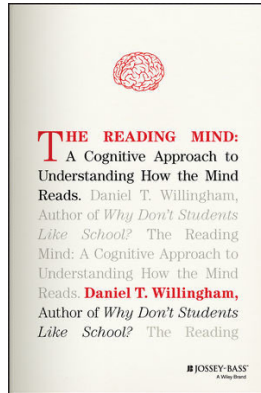
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Outsmart your Brain
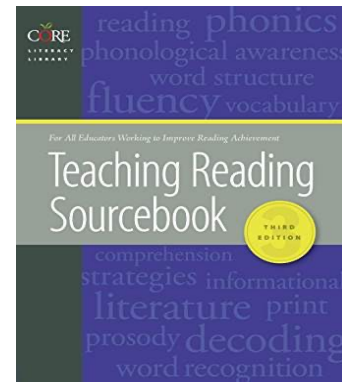Daniel T. Willingham

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Mark Seidenberg
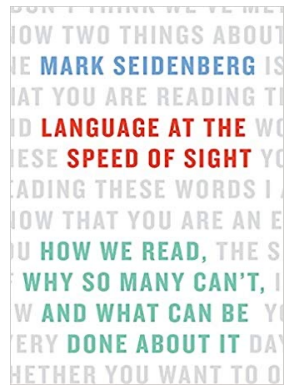


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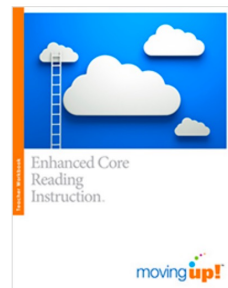
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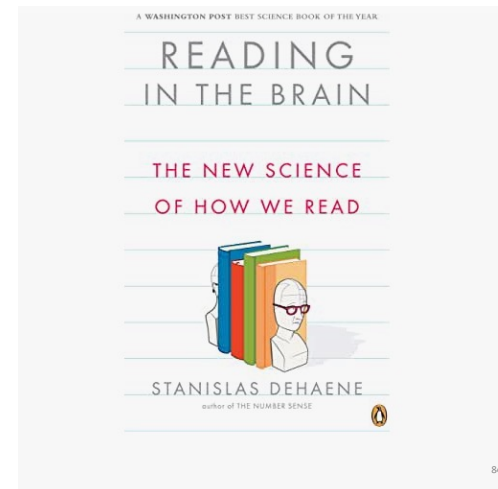


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