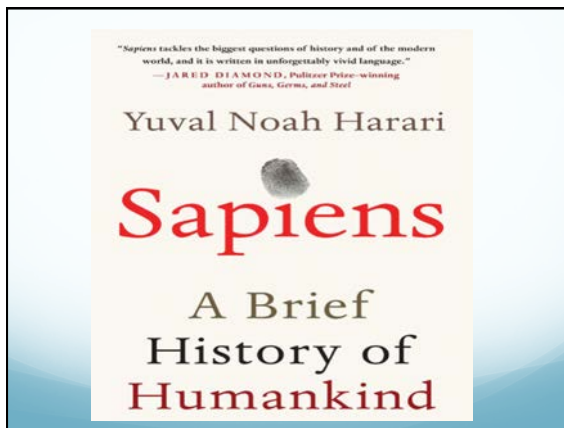


The Story of Monitoring and Searching in Early Literacy

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Historical Periods

- Cognitive Revolution (70,000 years ago)
- Agricultural Revolution (12,000 years ago)
- Scientific Revolution (500 years ago)

(Harari, 2015)

Power of Stories

Since large-scale human cooperation is based on myths, the way people cooperate can be altered by changing the myths – by telling different stories.

(Harari, 2015, p. 32).

Science and Ignorance

Science, unlike religion, is based in two types of ignorance:

1. It assumes we don't know everything worth knowing
2. It accepts that some of the things we know could be proven wrong as we gain more knowledge.

(Harari, 2015)

Science

Science is the belief in the ignorance of experts.

Physicist Richard Feynman

Scientists are Tentative

Reading and writing are complex processes “and will not be easy to observe and explain. We therefore need to be tentative and flexible because we could be wrong in our explanations from time to time, or from this pupil to that pupil.”

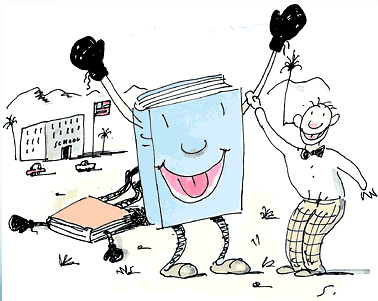
(Clay, 2005a, p. 2)

Teaching Reading *Is* Rocket Science

What Expert Teachers of Reading Should Know and Be Able To Do



Reading Wars



RR Story Elements

- Literacy learning involves a continuous process of change in knowledge and strategic activity over time.
- The importance of building on a child's strengths to make it easy for him or her to learn.
- Children construct their own personal understandings as they process information while reading and writing.

Askew, Pinnell, Scharer, 2014

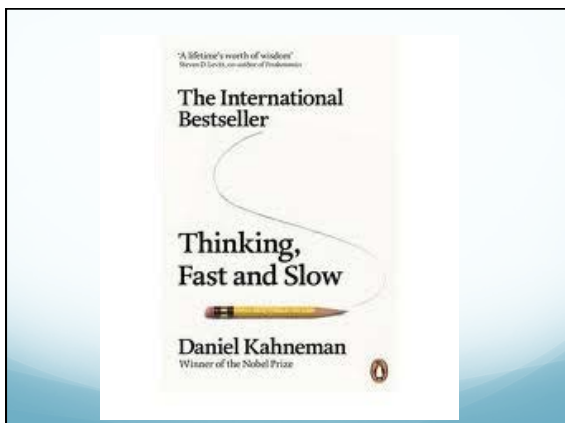
Inside Out Emotions



Strategic Activity

As adults when we work on a problem we engage in a conscious search for solutions. In reading we sometimes consciously search for a word or a meaning or a correction **but most of the time our active search is a fast reaction in our brain that appears to be automatic and is rarely conscious.** I use the words **strategic activities** to describe this fast brainwork.

LL2, p. 103



Do not try to solve the
following problem—
listen to your intuition:

A bat and a ball cost \$1.10.
The bat costs one dollar more than
the ball.
How much does the ball cost?

System 1 & System 2

System 1 operates automatically and cannot be turned off at will, errors of intuitive thought are often difficult to prevent.

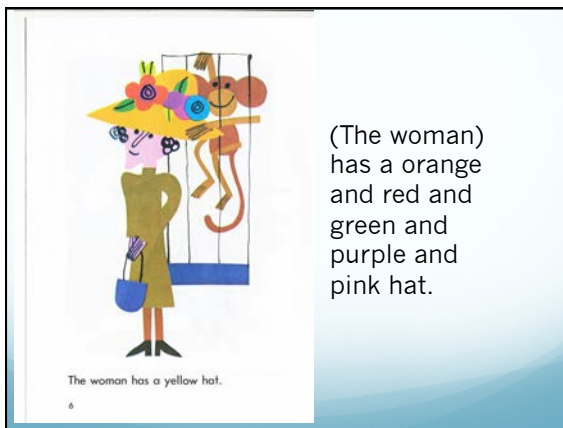
System 2 is effortful thinking, but it is too slow and inefficient to serve as a substitute for System 1 in making routine decisions. It can monitor mistakes when the stakes are high.

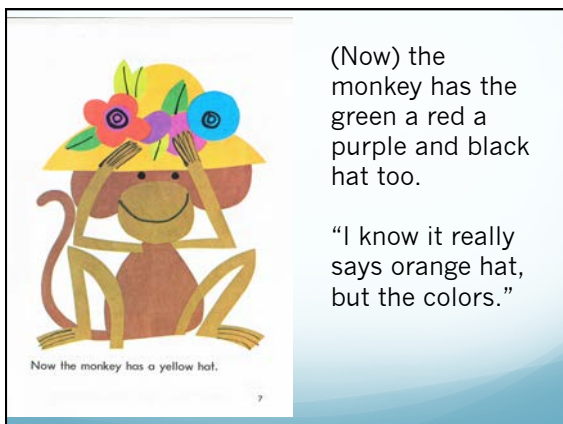
(Kahneman, 2011)

Simplified Question

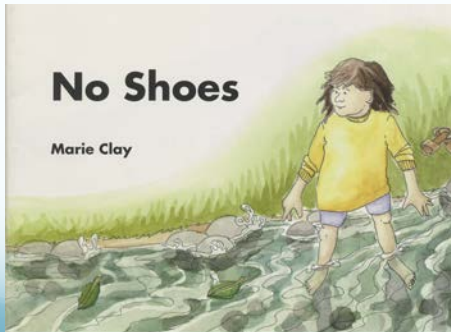
When faced with a difficult question, we often answer an easier one instead, usually **without noticing** the substitution.

(Kahneman, 2011)





Concepts About Print



Monitoring Known Words



"What's wrong on this page?"

Intuition & Recognition

The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition.

(Herbert Simon, quoted in Kahneman, pp. 11-12)

Running Record

Emma 93%, no SC

Tony 91%, SC 1/3

✓ ✓ ✓
✓ ✓

Here comes Max
"Woof, woof."

✓ is/SC ✓
✓ ✓

✓ ✓ looking

Max is hungry.

✓ ✓ coming

✓ ✓ ✓
✓ ✓

Here comes Macy.
"Meow, meow."

✓ ✓ ✓
✓ ✓

✓ ✓ looking ✓

Macy is hungry too.

✓ ✓ ✓ ✓

✓ ✓ ✓ ✓ ✓ ✓
✓ ✓ dinner

"Here you are, Max," said Dad
"Have some food."

✓ ✓ go/SC ✓ ✓ ✓
✓ ✓ - /T/R

38 A; and/but

33 A; 2 SC boy/dog No/Now;
4 T eats, but, away, Purr

Monitoring by Initial or Final Letters

He caem closer and closer.
I moved my toes
adn he was gone.
He fwe high up into the rtee.



"What's wrong on this page?"

"No! No! said Baby Bear.

"I like the blue car.

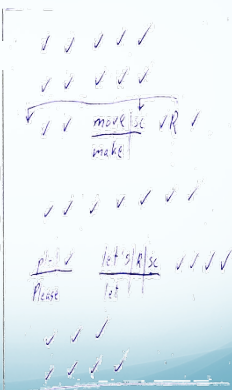
I can make it go.

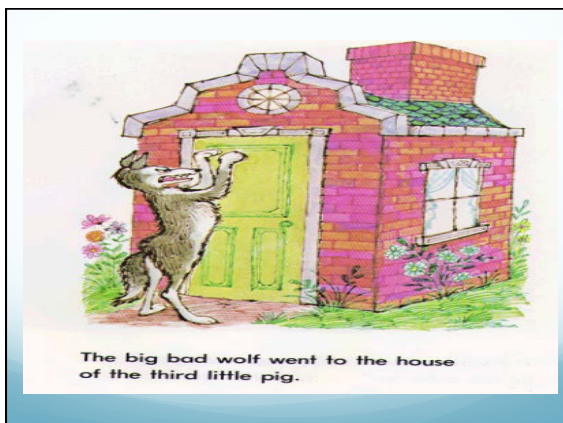
I can go for rides in it.

Please let me have the car."

Father Bear said,

"I like the train."





Monitoring Medial Letters

I paddled in the waetr
but not too far.
What cuold I find with my teos?
A stnoe, or a fsih?

14

What's wrong with the **writing** on this page?

Learning to Look

There is a very steep gradient of difficulty on items 12 to 14. Children usually notice the changed word order (Item 12) before a change in first and last letters (Item 13) or a change in letters buried within the word (Item 14).

(Clay, 2000, p. 11)

Something at the Door





1 The knob on the door began to turn.
2 The giant put his hands over his eyes.
3 The ghost hid behind the giant.
4 The witch hid behind the ghost.
5 Then the door opened, and a little girl
6 came into the room.
7 "Hello," she said. "I live next door, and
8 I made a plate of cookies for you."

1 $\sqrt{\text{no} / \text{R/no/sc}} \text{ R}$ $\sqrt{\text{no}} \sqrt{\text{no}} \sqrt{\text{sc}} \sqrt{\text{R}}$
 knob
 2 $\sqrt{\text{giant}} \sqrt{\text{had/sc}} \sqrt{\text{bended/be-hid/R/sc}}$ $\sqrt{\text{gains/gint}}$
 ghost hid behind giant/ T
 4 $\sqrt{\text{had/sc}} \sqrt{\text{be/R/sc}}$ $\sqrt{\text{giant}}$
 hid behind ghost
 5 $\sqrt{\text{giant}} \sqrt{\text{had/sc}} \sqrt{\text{bended/be-hid/R/sc}}$
 6 $\sqrt{\text{giant}} \sqrt{\text{had/sc}} \sqrt{\text{bended/be-hid/R/sc}}$
 7 $\sqrt{\text{hell/sc}} \sqrt{\text{love/R/sc}}$ $\sqrt{\text{hell/sc}}$ $\sqrt{\text{love/R/sc}}$
 hello live
 8 $\sqrt{\text{hell/sc}} \sqrt{\text{love/R/sc}}$ $\sqrt{\text{hell/sc}}$ $\sqrt{\text{love/R/sc}}$

Change Over Time

When learners monitor themselves and self-correct on parts of a new text this provides some evidence of when messages from the outside and messages from the inside are coming together. When we follow children's progress over time and record carefully the evidence is very powerful. We are able to record what we see them do and track some changes in their problem-solving as their reading improves.

Clay, LL2, p.100

High Progress Students

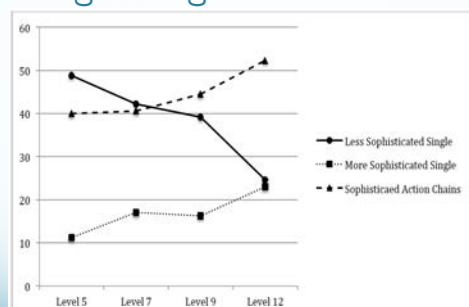


Figure 4. Change over time in first grade level readers' use of single actions and action chains

McGee et al., 2015

Searching

A set of strategic activities that a reader engages in to make word-recognition attempts. The information sources a reader uses to generate attempts gradually changes over emergent and beginning reading. Searching includes processing activity to generate initial attempts as well as to make additional attempts when monitoring processes suggest that the initial attempt may not be correct.

(Schwartz & Gallant, 2009)

Monitoring

A set of strategic activities that a reader engages in to evaluate word-recognition attempts. The information sources a reader uses to evaluate these attempts gradually changes over emergent and beginning reading. As word-recognition processing becomes more automatic, attention shifts to monitoring comprehension decisions.

(Schwartz & Gallant, 2009)

Monitoring or Searching?

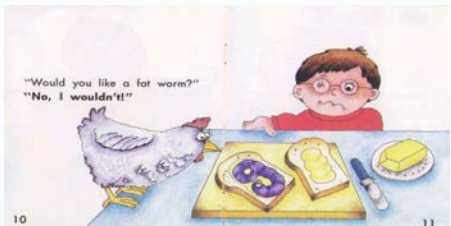
Observations of teacher interactions with students engaged in literacy learning in New Zealand both in classroom and in individual one-to-one specialist situations highlight a common teacher response to error. Teachers very frequently move to **help children fix undetected errors before learners are aware that an error has been made.**

(Pauline Smith, 2006, p.3)

Monitoring or Searching?

- only two percent of teacher-responses after undetected error enabled 5 year-old children to find their own mistakes
- teachers addressed 95% of errors but only fostered children's post-error self-monitoring 34% of the time for 7 year-old hardest-to-teach children

(Pauline Smith, 2006, p.5)



R1: Would you like a worm?

R2: Would you like a purple worm?

R3: Would you like a funny worm?

Contingent Teaching

What might the teacher say? Partial attempts are where we can observe whether the teaching is being directed to the need which the child is demonstrating (contingent teaching).

Clay, 2001, COT, p. 202

Items & Strategic Activity

It is false to assume that a central processing system for literacy already exists in the brain when the child begins literacy learning. **While learning the items we are teaching**, the child is building a processing network that will deal with literacy tasks. **He needs to learn the letters and the words, and their relationships to sounds**, but he also has to build and **expand the intricate interacting systems in the brain that must work together at great speed as he reads text**.

Clay, 2005, LL2, p. 102

Processing

It is essential that the child come gradually to work at reading and writing activities in ways that enable him to learn from his attempts. This self-tutoring occurs at faster and faster rates under the control of healthy monitoring and self-correcting systems.

Clay, 2005, LL2, p. 86

Mechanism of Self-Extending

The successful reader who is making no errors is monitoring his reading at all times. Effective monitoring is a highly skilled process constructed over many years of reading. It begins early but must be continually adapted to encompass new challenges in texts.

Clay, LL2, p.108

Word Recognition Goal

Children solve new challenges including multisyllabic words within more difficult texts at speed, working with clusters of letters. Smoothly operating reading systems produce evidence of how the system is becoming self-extending.

Clay, LL1, p. 51

Taking Words Apart While Reading Continuous Text

The goal of all forms of word analysis for the reader is to be able to take words apart, on the run, while reading

- unexpected known words
- partially familiar words still being learned
- and new, unknown words.

Clay, LL2, p. 132

Names Test

Jay Conway	Stanley Shaw
Tim Cornell	Wendy Swan
Chuck Hoke	Glen Spencer
Yolanda Clark	Fred Sherwood
Kimberly Blake	Flo Thornton
Roberta Slade	Grace Brewster
Homer Preston	Ned Westmoreland
Gus Quincy	Ron Smitherman
Cindy Sampson	Troy Whitrock
Chester Wright	Vance Middleton
Ginger Yale	Zane Anderson
Patrick Tweed	Bernard Pendergraph

(Cunningham, RT, 1990, pp.124-129)

Early Names Test

Rob Hap	Jen Dut
Jud Lem	Jake Bin
Ray San	Sid Gold
Pat Ling	Frank Lug
Tim Bop	Grace Nup
Brad Tash	Beck Daw
Trish Mot	Gus Lang
Fred Tig	Lex Yub
Bab Furn	Ross Quest
Kate Tide	Dane Wong
Brent Lake	Tom Zail
Flip Mar	Gail Vog
Jet Mit	Rod Blake
Rand Lun	Tag Schick

Mather, Sammons, Schwartz, RT, 2006

What Can Early Intervention Accomplish?

Children who successfully complete early literacy interventions like Reading Recovery should operate in reading and writing in ways that **put them on track for being silent readers with self-extending processing systems** during the next two years at school. With good classroom instruction and moderate personal motivation that should be achievable.

Clay, LL1, p. 52

Surprise!



The Mystery of the Reading Ape

Why does our primate brain read?
Why does it have an inclination for reading although this cultural activity was invented only a few thousand years ago?

(Dehaene, Stanislas (2009). Reading in the Brain: The New Science of How We Read (p. 4).

Neuronal Recycling

Neuronal recycling is also a form of reorientation or retraining: it transforms an ancient function, one that evolved for a specific domain in our evolutionary past, into a novel function that is more useful in the present cultural context.

(Dehaene, Stanislas (2009, p. 147).

Monitoring

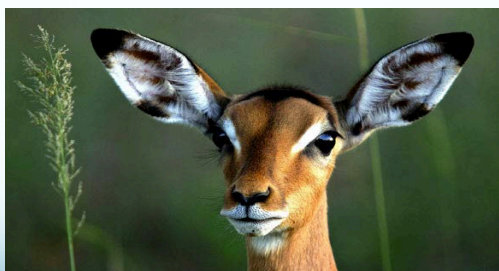
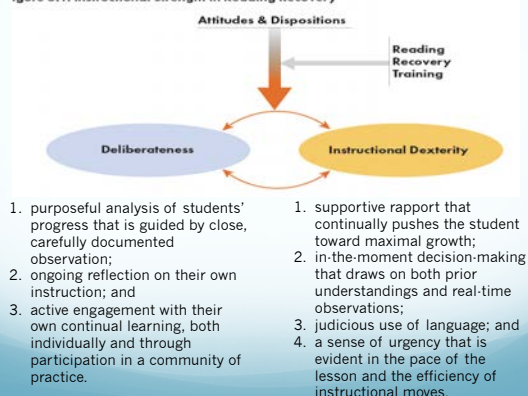


Figure 5.1. Instructional Strength in Reading Recovery



Ongoing Reflection

- How item knowledge relates to strategic activity?
- How writing support phonemic awareness, phonics, and monitoring during reading?
- How familiar reading and monitoring correct responses can build the massive amount of orthographic knowledge that supports fluent reading?
- How monitoring and searching change over time and reflects changes in learning to look at print?
- How can we support children to build on their current strengths as they establish the foundation of a self-extending system?

With Your Help

Literacy activities can become self-managed, self-monitored, self-corrected and self-extending for most children, even those who initially find the transition into literacy hard and confusing.

Clay, 1991, BL, p. 345

Thank You!
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More to Explore

Schwartz, R. M. (1997). Self-monitoring in beginning reading. *The Reading Teacher*, 51(1), 40-48.

Schwartz, R. M. (2005). Decisions, decisions: Responding to primary students during guided reading. *The Reading Teacher*, 58(5), 436-443.

Schwartz, R., & Gallant, P. (2009). Literacy learning and instruction: In search of complexity. *Journal of Reading Recovery*, 8(2), 61-65.

Schwartz, R. M. (2015). Why not sound it out? *Journal of Reading Recovery*, 14(2), 39-46.
