

How high quality language environments create high quality learning environments

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ZERO TO THREE
Early connections last a lifetime

Everyone is talking about...

- The 30 million word gap
- The grade level reading campaign
- Universal pre-school

The New York Times

Trying to Close a Knowledge Gap, Word by Word

By MOTOIRO RICH | MARCH 22, 2014

The New York Times

N.Y. / Region

WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS

Big City

Before a Test, a Poverty of Words

Quality of Words, Not Quantity, Is Crucial to Language Skills, Study Finds

A Summer of Extra Reading and Hope for Fourth Grade

Literacy Laws Challenge Third Graders and Schools

By MOTOIRO RICH | AUG. 4, 2014

The Opinion Pages | OP-ED CONTRIBUTORS

The Building Blocks of a Good Pre-K

By SHAEL POLAKOW-SURANSKY and NANCY NAGER | OCT. 21, 2014

What unites each of these initiatives?

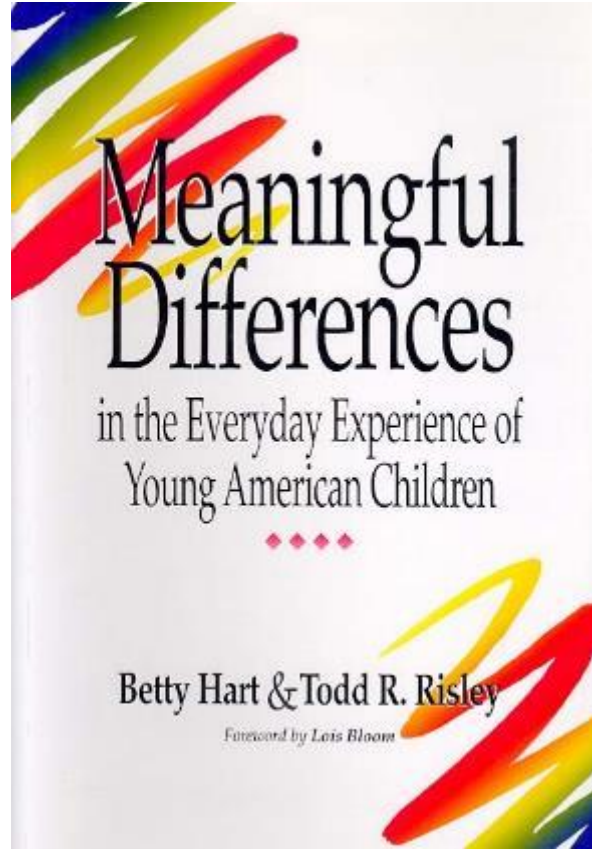
Hmmmm

The answer in this presentation??

Each of these initiatives focuses on and relies upon developing strong language skills.

And those language skills come from having high quality language environments where adults and children engage in conversation on a shared topic of interest

Let me show you why: The 30-million word gap



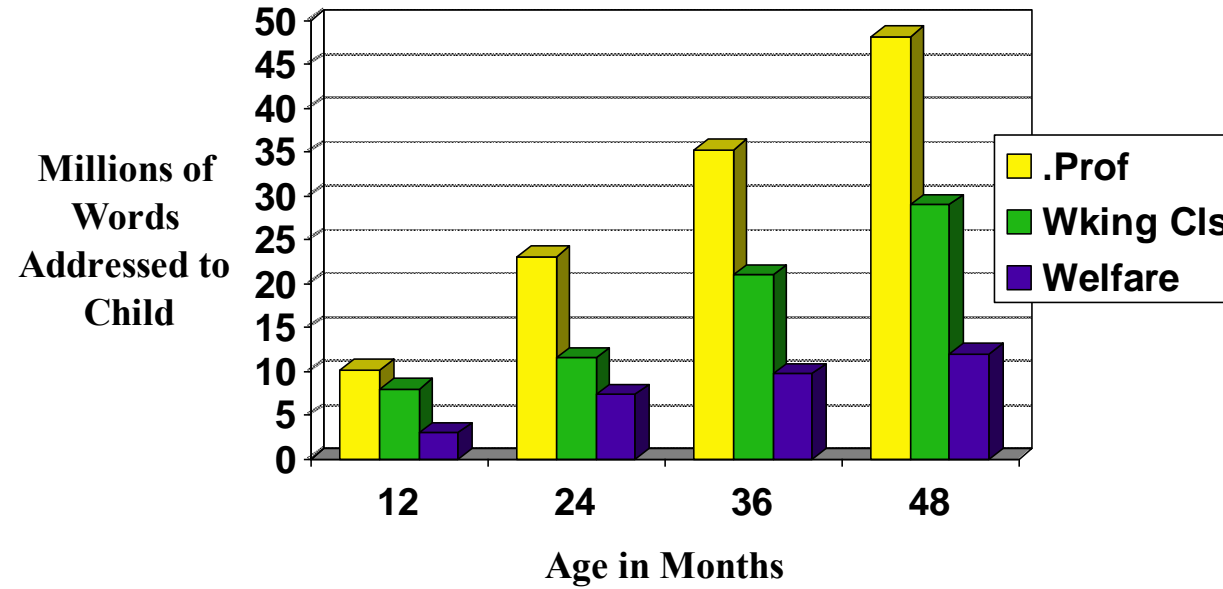
In 1995, Hart & Risley

Examined language input to children
from...

Welfare
Working class
Professional families

(see also Hoff, 2002, 2003, 2013; Rowe et al., 2013;
Pancsofar & Vernon-Feagans, 2010)

Results?



Number of words heard per hour by children in each group:

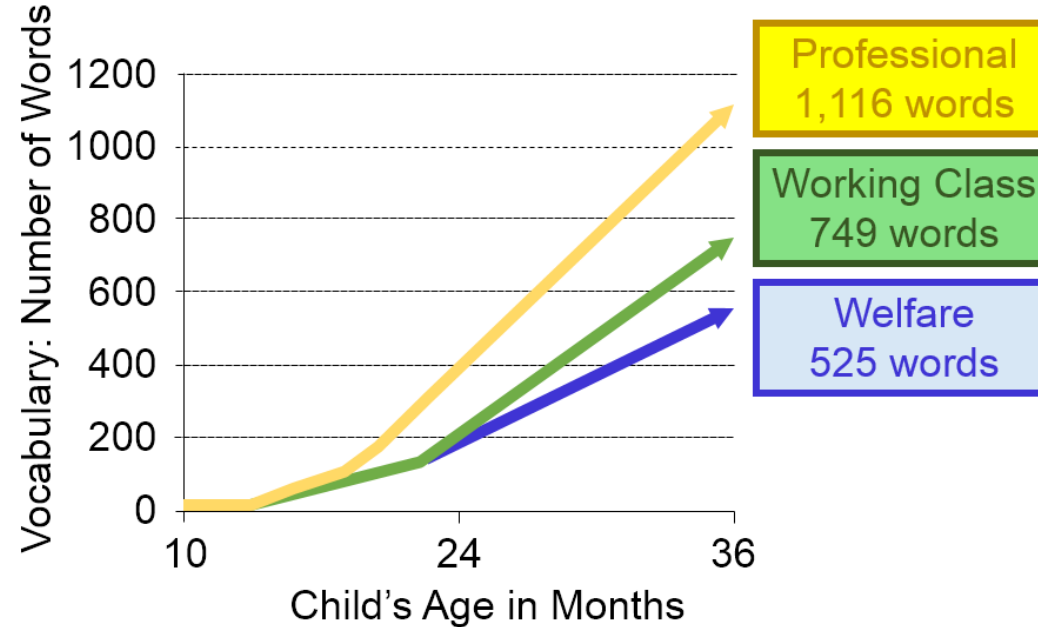
Welfare - 616

Working Class – 1,251

Professional - 2,153

Significance?

Children's vocabulary scores reflect the achievement gap by age 3!



- Vocabulary assessed at age 3 predicted PPVT scores at age 9-10 ($r = .58$) and TOLD (more comprehensive) $r = .72$
- Vocabulary at age 3 correlated with reading comprehension scores on Comprehensive Test of Basic Skills $r = .56$
- By second grade middle class children have 6000 root words; lower income 4000 -- 2 grade levels behind (Dale & O'Rourke, 1981)

They suggested and many have suggested since

That the amount of language spoken to the child coupled with the kind of language (the quality or what they called **“the dance”**) can change that trajectory!

**BUT MANY HAVE FORGOTTEN ABOUT THE QUALITY MESSAGE
AND ONLY REMEMBERED THE QUANTITY OF TALK MESSAGE.**

See Cartmill et al. (2013); Rowe (2013); Goldin-Meadow et al. (2014), Hirsh-Pasek et al. (2015)

What about the campaign for grade level reading?



The Casey Foundation reports that...

- **More than 80% of 3rd graders from low-income families will not be reading at grade 3 in grade 3**
- **At least half of the school achievement gap between rich and poor kids starts before kindergarten**
- **42 states across the US have started campaigns to reverse this trend**



The National Governor's Association recognizes that strong language skills are critical if we are to build strong reading skills!

OCTOBER 2013

**A Governor's Guide
to Early Literacy:**



Let me show you why.

One second in the mind of a reader



From processing visual print



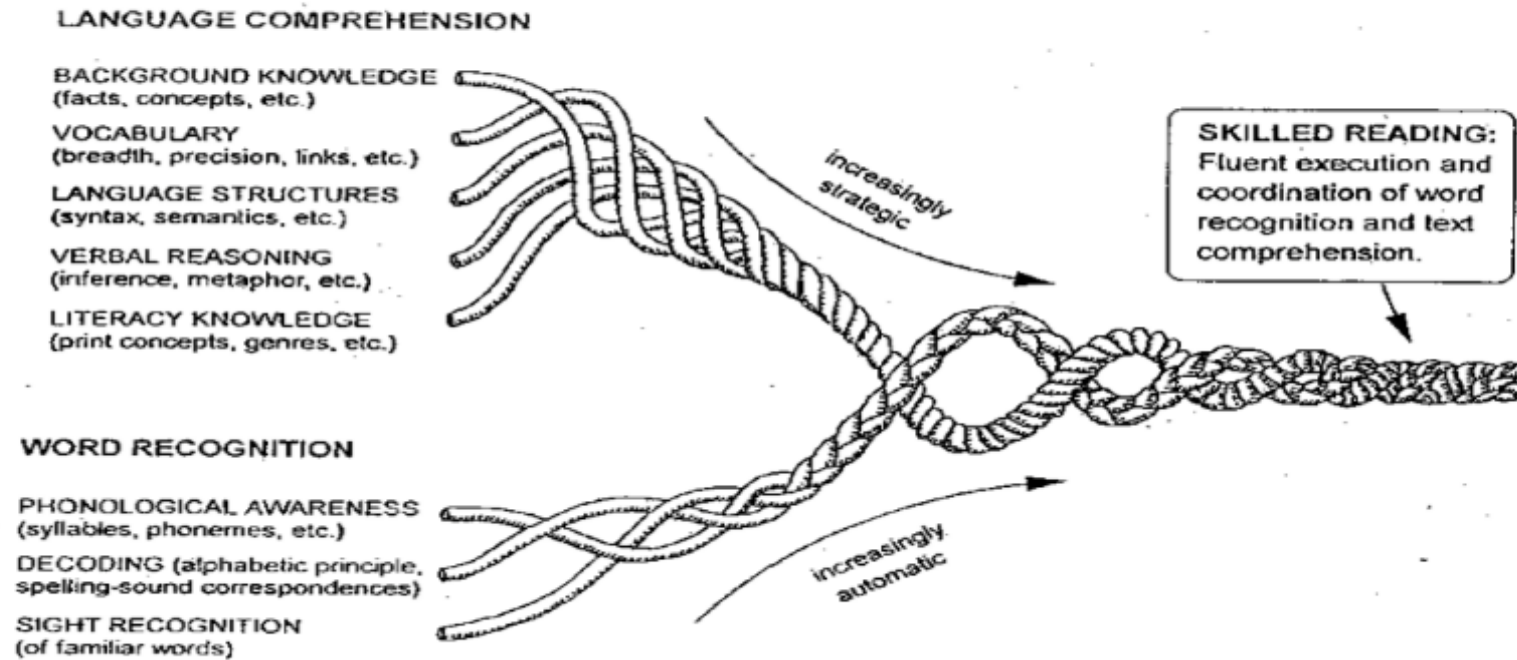
To decoding sights to sounds (B-O-Y = boy)



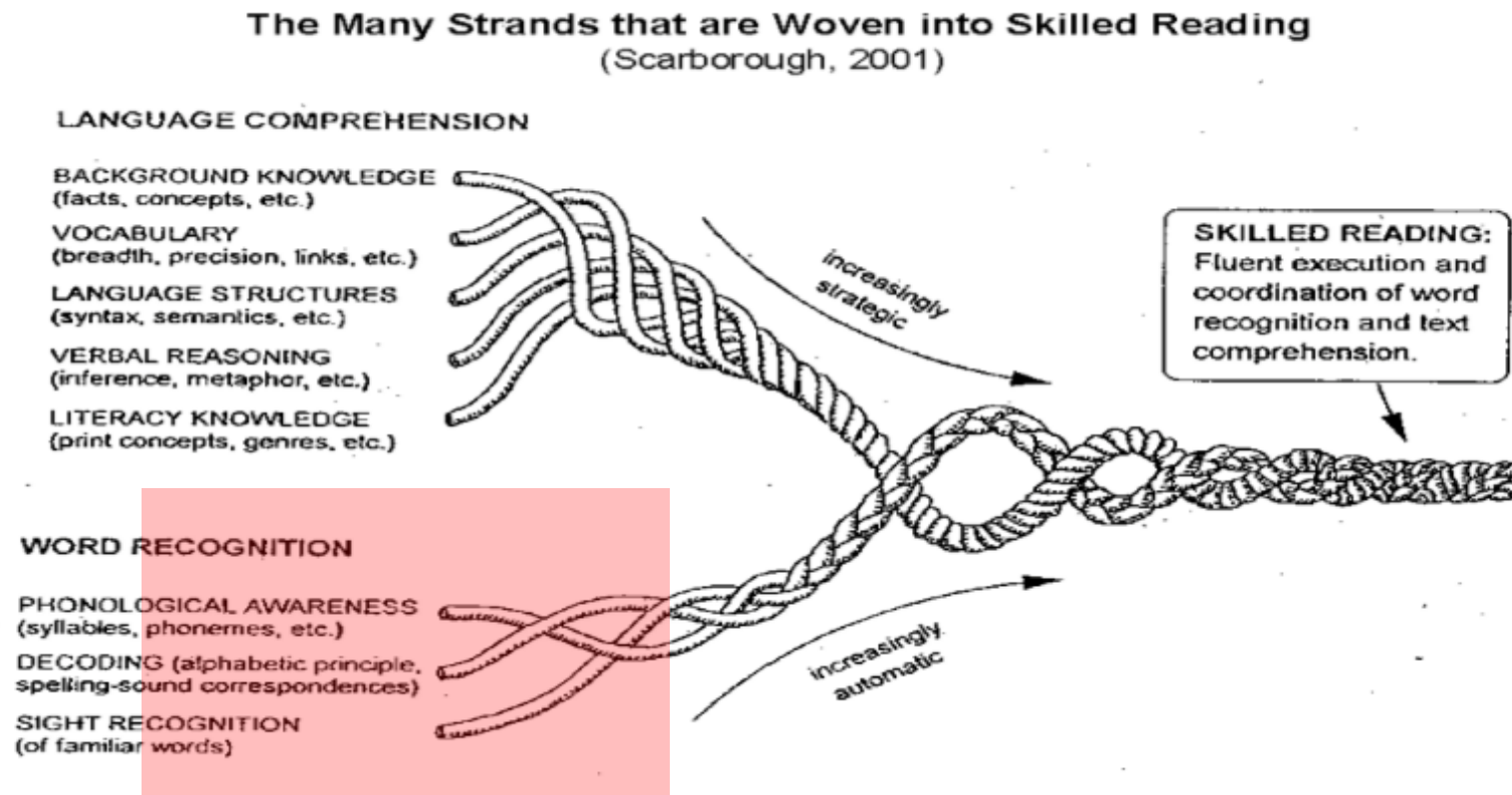
To infusing text with meaning

In Scarborough's terms

The Many Strands that are Woven into Skilled Reading (Scarborough, 2001)

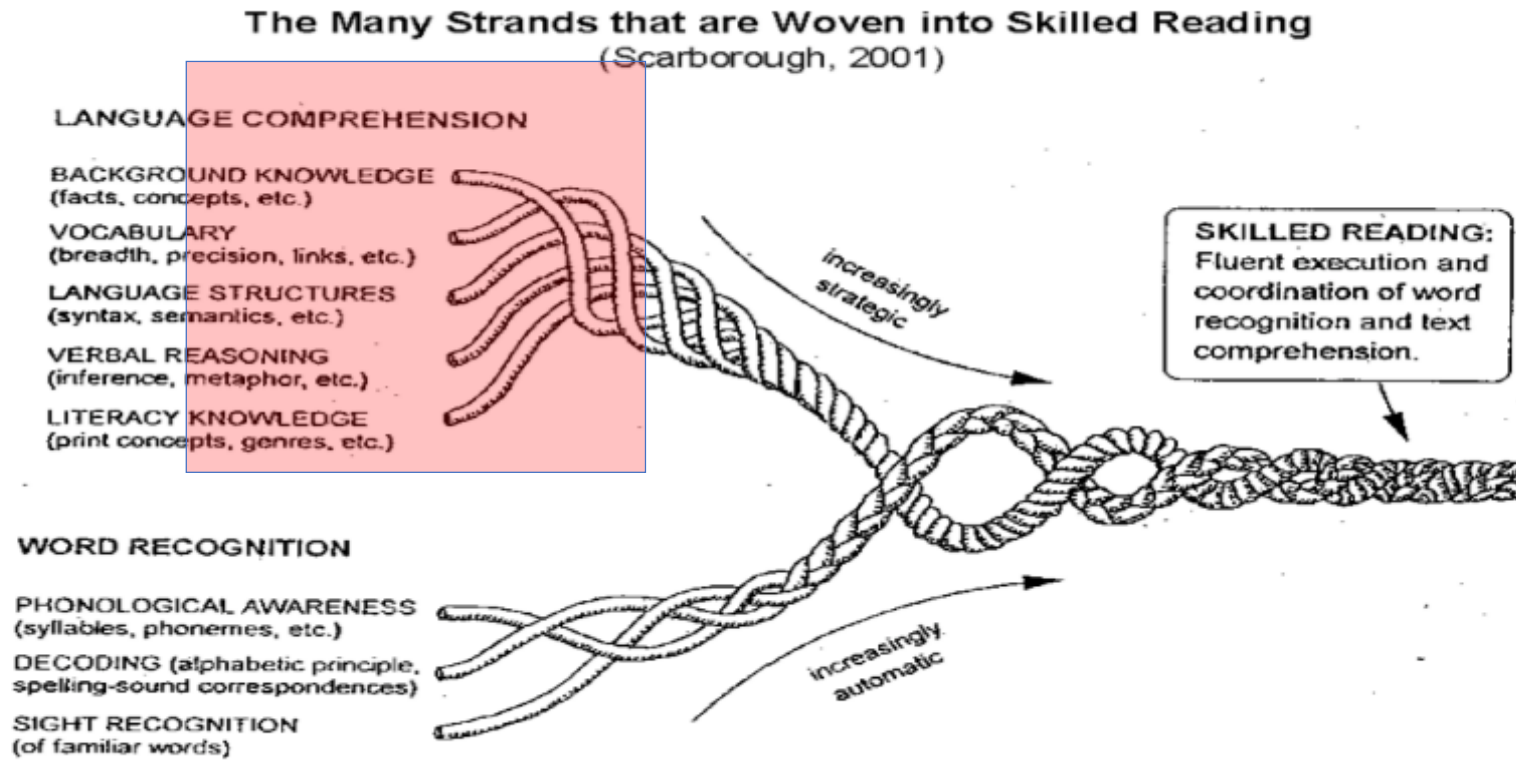


We know a tremendous amount about the word recognition or “code” skills



And they are critical for learning to read

We know far less about how to support language for reading



The Scientific Data show both direct and indirect relationships between language and reading

(NICHD ECCRN, 2002; Dickinson & Tabors, 2001, Lee, 2011, Grissmer, 2011, Munson et al; 2004, 2005; Storkel, 2001, 2003; Whitehurst & Lonigan, 1998, 2001; Silven et al., 2007; Dickinson, Golinkoff & Hirsh-Pasek, 2013)

Thus, as in the 30-million word gap

- Strong language builds strong reading
- And our science has taught us how to build strong language!



And finally, what about Universal Preschool or “Preschool for All” ?

- **Huge push nationally for universal Pre-K**
 - GA, FLA, NJ, OK, IL + cities across the nation including NY, Chicago, Washington...
- **Most of America WANTS high quality preschool**
- **But we must ensure high quality preschool – which includes high quality talk.**
- **And currently, teachers spend less than 19% of their time in high quality talk!**
 - Dickinson et al. 2004, 2013

Our new secondary analyses of the NICHD Child Care data set suggests...

- That language at school entry is the single best predictor school outcomes (reading, math, social skills, later language) in grades 1 and 3
- And of gains in outcomes scores from Grades 1 to 3; 3 to 5

So today, let's talk about how to create high quality language environments for young children: A talk in 2 parts

- **6 Evidence-based principles of language learning that support reading**
- **Implications and outreach**

A Talk in 2 parts

- **6 Evidence-based principles of language learning that support reading**
- Implications and outreach

Distilling from the literature, we **boldly** (or was that tentatively) suggest 6 principles of language learning that can be used to enhance language outcomes and the foundation for reading for both monolingual and dual language learners

See Harris, Hirsh-Pasek et al. (2011) for a review; Konishi, et. al. (2014)

The 6 principles

1

Children learn what they hear most

2

Children learn words for things and events that interest them

3

Interactive and responsive environments build language learning

4

Children learn best in meaningful contexts

5

Children need to hear diverse examples of words and language structures

6

Vocabulary and grammatical development are reciprocal processes

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The Evidence

- **Amount matters**
 - Hart & Risley (1995)
- **Amount of speech is important for statistical learning**
 - (Saffran et al., 1996)
- **Amount of speech is important for speed of processing**
 - (Fernald, 2009; Weisleder & Fernald, 2013)

1996: Saffran, Aslin & Newport

The amount of language you hear matters
because babies do statistical learning on the input
they hear to find patterns of sounds and words!

Fernald (2009): Amount matters because it increases processing speed!

See also Weisleder and Fernald (2013)

Enter “looking while listening”

Looking-while-Listening procedure



Fernald, Zangl, Portillo, & Marchman (2008)

18 months: Distracter-to-Target shift



24 months: Distracter-to-Target shift

