

Usability testing with stakeholders in the development of a formative assessment of oral reading fluency

Alistair Van Moere & Ryan Downey
Pearson, Knowledge Technologies

Overview

- Why Oral Reading Fluency?
- Demonstration
- Pilot & focus groups with stakeholders

Oral Reading Fluency

“The ability to read a text quickly, accurately, and with proper expression.”

National Reading Panel (2000)

Automaticity Theory (LaBerge & Samuels, 1974)

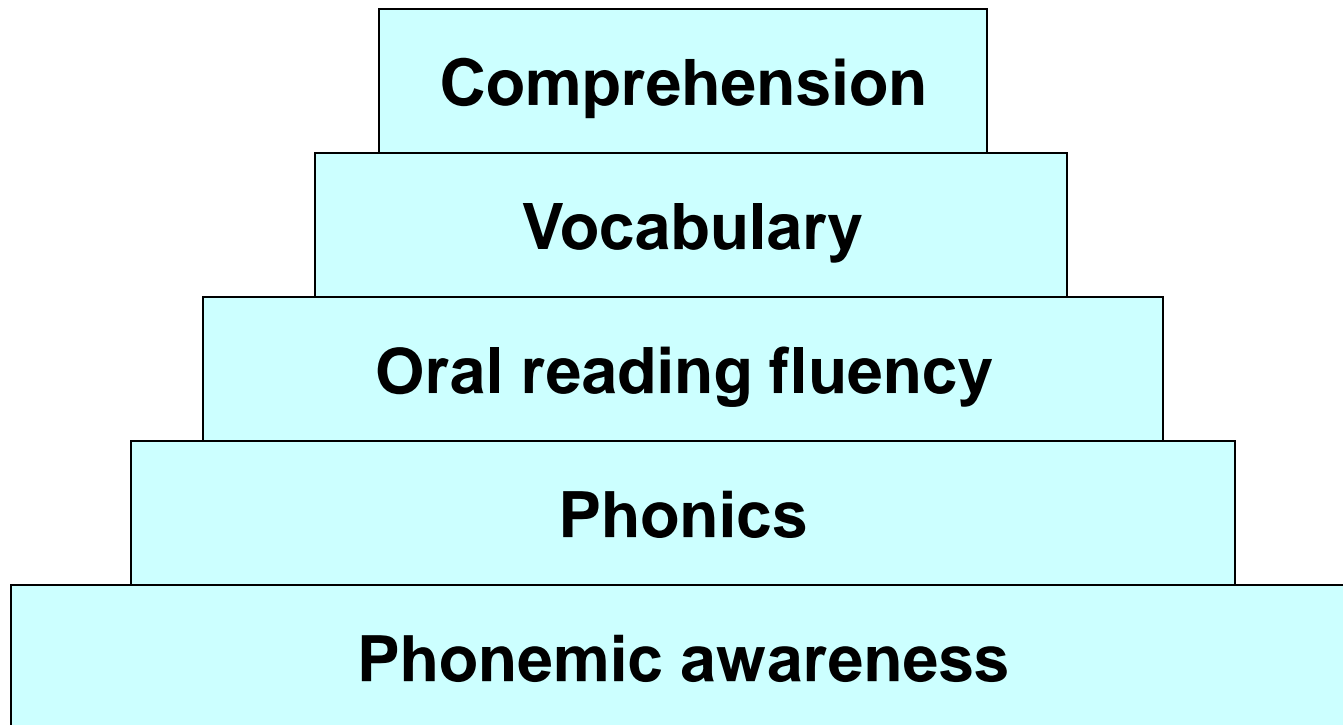


Before the fixation point and after

Word recognition: is the initial and most simple step in the reading process, yet it is this that differentiates native readers from even highly skilled L2 readers.

(Segalowitz et al, 1991; Carver, 1982)

5 Critical Components of Reading

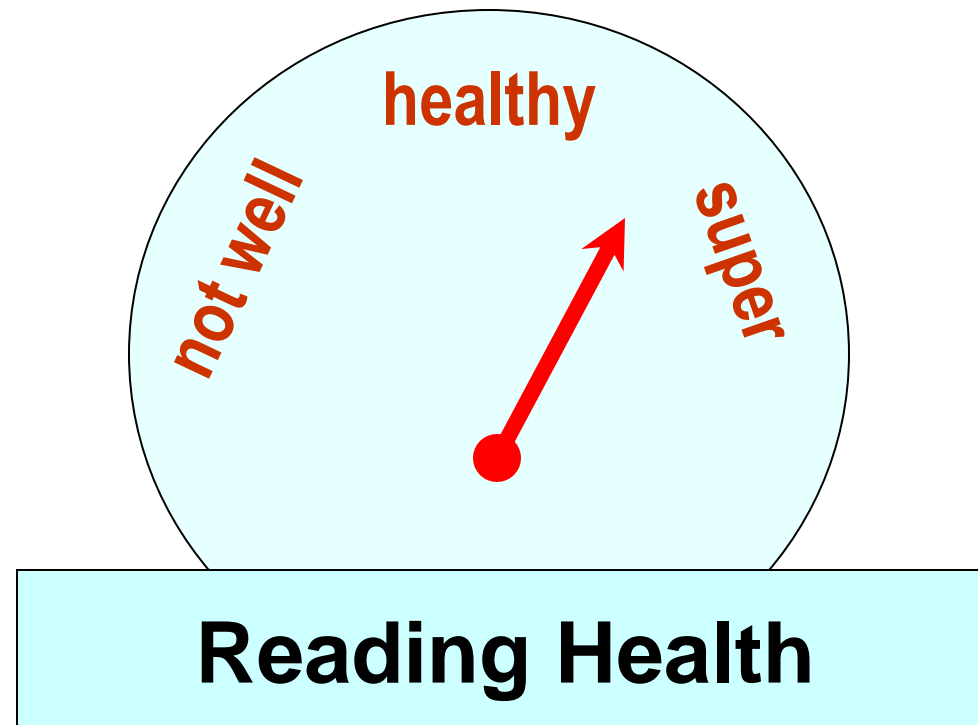


National Reading Panel (2000)

The Thermometer

A dependable indicator of a student's academic
"health" or "illness"

(Hasbrouck & Tindal, 2006)



“No Child Left Behind”

- School districts need to show **Adequate Yearly Progress**
- Oral Reading Fluency may be used as part of the Reading First initiative

National Norms

	Autumn Norms	Spring Norms
1 st Grade	30 WCPM	90 WCPM
2 nd Grade	80 WCPM	120 WCPM
3 rd Grade	110 WCPM	140 WCPM

“At risk” = 1 grade level below norms

“Severe” = 2 grade levels below norms

1-minute reading test

Pedro had just moved from Mexico when

1 2 3 4 5 6 7

he saw an accident. A little boy had

8 9 10 11 12 13 14 15

fallen into an open manhole, and now his

16 17 18 19 20 21 22 23

leg was caught between two pipes.

24 25 26 27 28 29 *that*

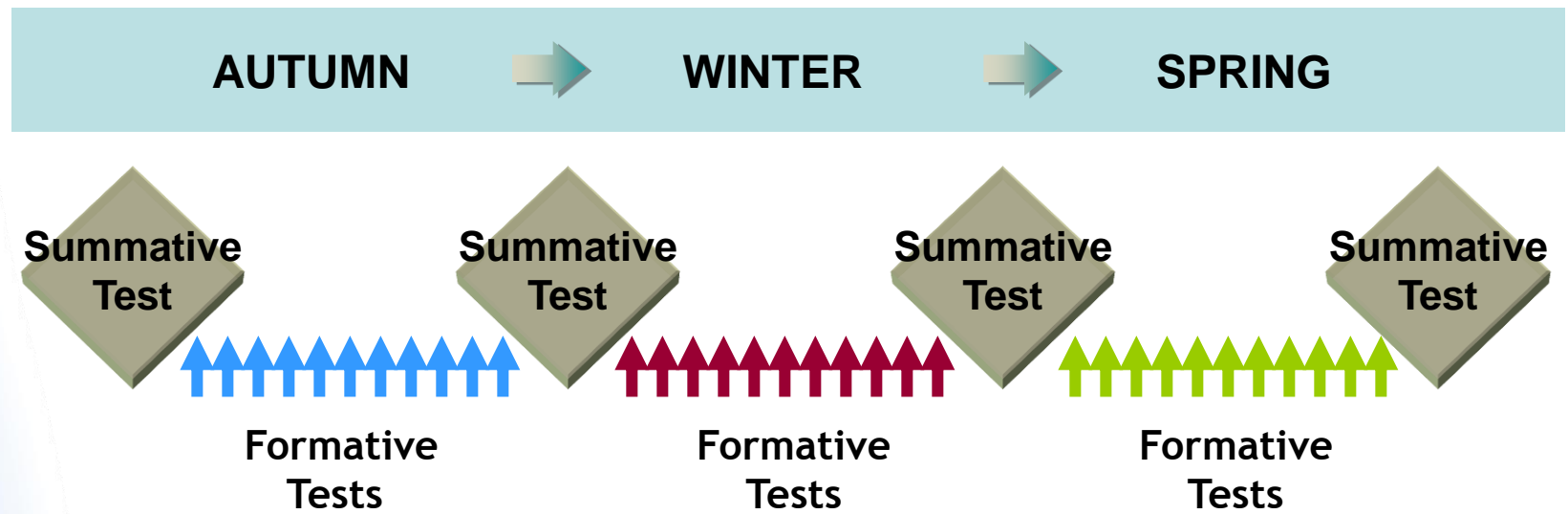
Pedro was just ten. He didn't think he

30 31 32 34 35 36 37 38

could rescue the boy alone.

39 40 41 42 43

Sample school year



Challenges to this approach

- Teachers need training
- One-on-one testing
- Time-wasted: scoring, annotating, and entering data
- Expressiveness not included
- Standardization

Goals of our study

1. Implement automated testing
2. Validate accuracy of automated scoring
3. Involve stakeholders

Demonstration

How It Works

Callback Number

4152005502

Update

Reset

Test

This number will be called by the Ordinate System to deliver a test. Click "Test" to verify the phone number by initiating a callback.

Student	Test	Call	Score
John Doe	4th Grade - Week 1		
Jane Smith	4th Grade - Week 2		
Bob Jones	4th Grade - Week 3		
James Dean	4th Grade - Week 4		

1. Browser initiates the call

2. Server calls the number

3. Student reads for a minute

4. Server displays the score



Involving Stakeholders

- Pilots:
 - Two local school districts
- Focus group:
 - San Jose School District office, June 2008

Pilot

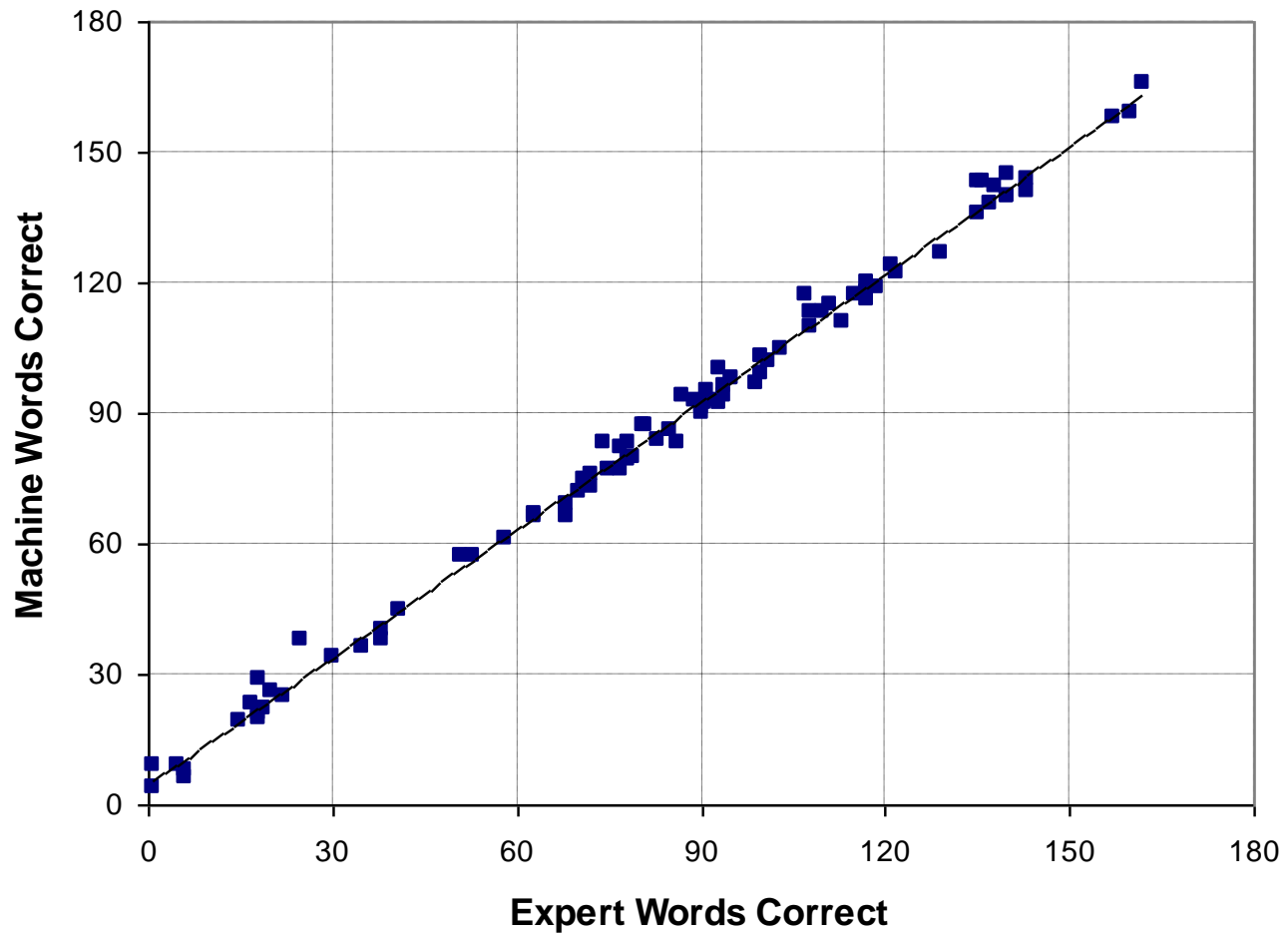
Participants:

- 87 students, grades 1 to 3
- 3 reading passages per student (261 passages)

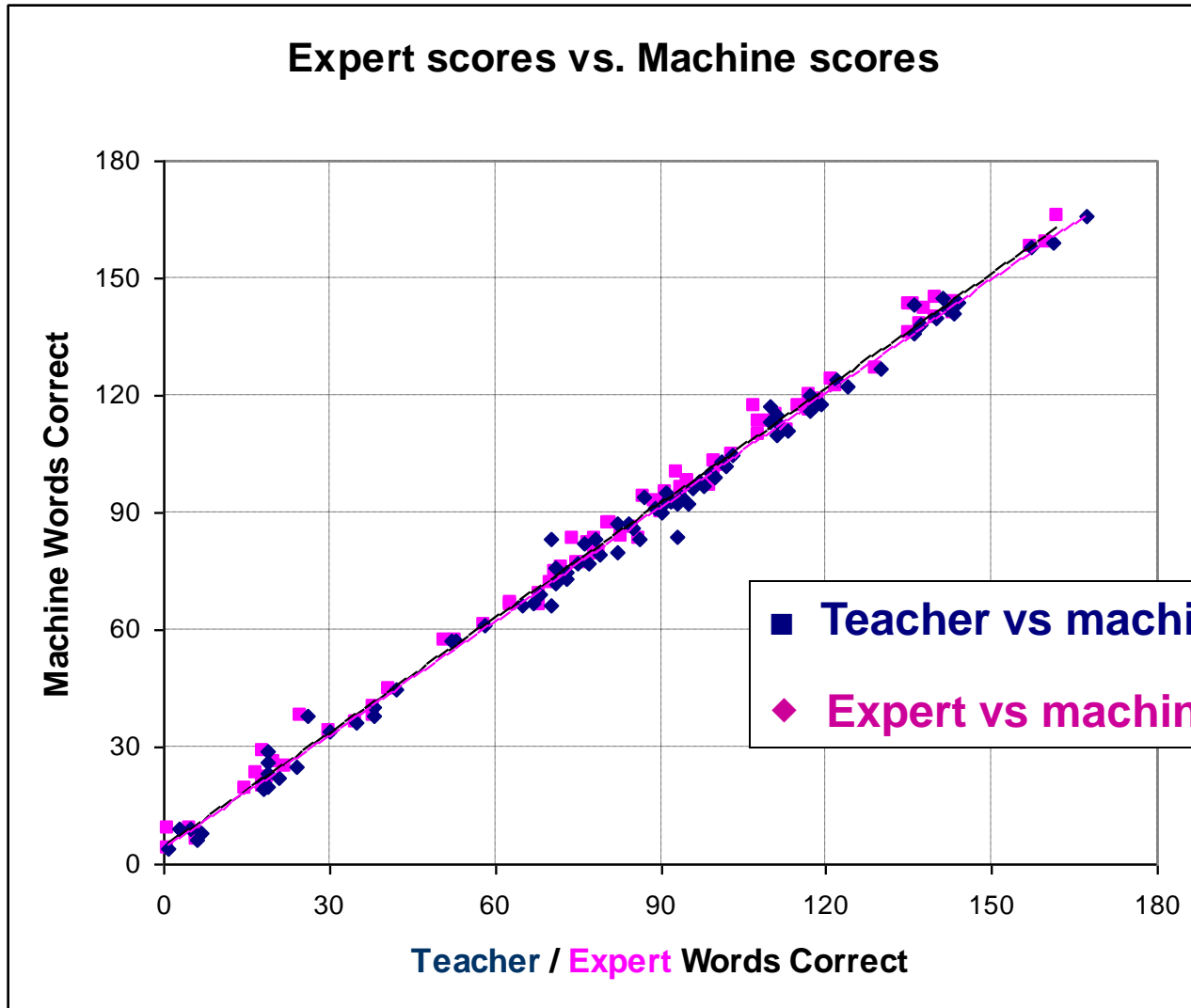
Data:

- Machine scores
- A score from the regular class teacher
- Scores from 3 expert raters ($r=.998$)

Expert scores vs. Machine scores







Focus Sessions (teachers)

- Immediate feedback
- Saves teaching time
- Email recording to parents

“When can we start using it?”

Focus Sessions (students)

- Enjoyable
- Self-realization

“That’s not how you say that word.”

Conclusions

- Tracks performance against national norms
- Saves teacher time
- Reliable scores
- Recordings involve parents

Future directions

Broader profile of reading ability:

- Percent Accuracy
- Expressiveness (phrasing, pausing, prosody)
- Diagnostic measures, e.g. pronunciation
- Comprehension tasks. e.g. summarizing

Can be adapted to other languages

Thank You!

Questions?

Alistair.VanMoere@pearsonkt.com

Ryan.Downey@pearsonkt.com