# An Analysis of Norms for Early Reading CBMs

NCME – 2014 Philadelphia, PA

Tindal, Saven, Nese, (Anderson & Betts)

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# *Our Querr Lingo*

When the English Tongue we speak
Why is *break* not rimed with *freak?*
Will you tell me why it's true
We say *sew*, but likewise *few?*
And the maker of a verse
Cannot rime his *horse* with *worse*?
*Beard* sounds not the same as *heard*;
*Cord* is different from *word*;
*Cow* is *cow* but *low* is *low*;
*Shoe* is never rimed with *foe*.
Think of *hose* and *dose* and *lose*;
And think of *goose* and yet of *choose*.
Think of *comb* and *tomb* and *bomb*,
*Doll* and *roll* and *home* and *some*.
And since *pay* is rimed with *say*
Why not *paid* with *said*, I pray?
Think of *blood* and *food* and *good*;
*Mould* is not pronounced like *could.*
Wherefore *done*, but *gone* and *lone* –
Is there any reason known?
To sum up all, it seems to me
Sounds and letters don't agree.

***Anonymous***

# A nod to Mark Twain

"What is needed is that each letter of the alphabet shall have a perfectly definite sound, and that this sound shall never be changed or modified without the addition of an accent, or other visible sound…But the English alphabet is pure insanity. It can hardly spell any word in the language with any degree of certainty" (Twain, 1942, pp. 168-169)

# Executive Numbered Memo: 010-2012-13 – OAR 581-022-2130 - Kindergarten Assessment

*In 2012, the Legislature directed the Early Learning Council and the Department of Education…*

- Arriving at kindergarten ready to learn?
- Is their level of school readiness improving or declining over time?
- Are there disparities (geographical, cultural, racial, and socio-economic) between groups of children that must be addressed?
- Are there particular areas of school readiness that Oregon must target?
- What children need to know and are able to do upon entering kindergarten.

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# Kindergarten Literacy Measures

**Student Copy** **Form K-1**

## Letter Names

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| o | X | A | s | O | B | E | a | T | x |
| e | r | Z | S | L | t | R | N | p | C |
| m | D | P | n | F | I | M | f | K | i |
| k | c | G | v | z | W | U | h | Q | u |
| w | y | l | V | d | J | b | j | q | A |
| T | a | O | s | X | o | B | x | A | E |
| Z | L | N | r | S | p | t | e | C | R |
| K | M | F | P | m | i | f | I | n | D |
| W | h | u | v | c | k | G | z | U | Q |
| A | y | q | j | b | d | J | V | l | A |



**Student Copy** **Form K-1**

## Letter Sounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| D | m | M | H | b | o | k | S | c |
| h | e | Z | O | U | z | n | A | T |
| J | t | G | N | l | a | r | L | y |
| f | I | th | Sh | Ch | z | qu | sh | wh |
| w | v | Th | ch | V | Ph | E | g | F |
| ph | s | i | X | R | Y | K | u | P |
| c | k | S | o | H | b | M | D | m |
| n | T | A | U | z | O | e | Z | h |
| y | r | L | g | l | G | t | N | J |
| sh | qu | wh | z | Ch | th | I | Sh | f |
| V | u | E | g | F | w | v | Th | ch |



**Assessor Copy** **Form K-1**

Student Name: _____ Date: _____

### Phoneme Segmenting

**Procedures**

This test is administered entirely orally. Do NOT show the student this scoring sheet. There is no student copy of this test because the student is listening and responding to the words supplied by the assessor.

**Directions**

Say to the student: "**I am going to say a word, and you will give me the sounds you hear in that word. If I say *cap*, you will say /c/ /a/ /p/. If I say *it*, you will say /i/ /t/. If I say *top*, you will say /t/ /o/ /p/. Let's try.**"

**Note: This is a 60 second timed test.**

**Scoring**

- Underline each phoneme the student says correctly.
- Put a ~~slash~~ through each phoneme the student misses.
- Students are NOT penalized for saying extra phonemes.

| Item | Teacher Says | Student Says | Number Correct | Item | Teacher Says | Student Says | Number Correct |
|---|---|---|---|---|---|---|---|
| 1 | paid | /p/ /ai/ /d/ | ___ / 3 | 11 | strap | /s/ /t/ /r/ /a/ /p/ | ___ / 5 |
| 2 | shirt | /sh/ /ir/ /t/ | ___ / 3 | 12 | futile | /f/ /u/ /t/ /i/ /le/ | ___ / 5 |
| 3 | tail | /t/ /ai/ /l/ | ___ / 3 | 13 | bold | /b/ /o/ /l/ /d/ | ___ / 4 |
| 4 | soak | /s/ /oa/ /k/ | ___ / 3 | 14 | mean | /m/ /ea/ /n/ | ___ / 3 |
| 5 | mint | /m/ /i/ /n/ /t/ | ___ / 4 | 15 | pack | /p/ /a/ /ck/ | ___ / 3 |
| 6 | metal | /m/ /e/ /t/ al/ | ___ / 4 | 16 | mass | /m/ /a/ /ss/ | ___ / 3 |
| 7 | smile | /s/ /m/ /i/ /le/ | ___ / 4 | 17 | bent | /b/ /e/ /n/ /t/ | ___ / 4 |
| 8 | send | /s/ /e/ /n/ /d/ | ___ / 4 | 18 | home | /h/ /o/ /me/ | ___ / 3 |
| 9 | spouse | /s/ /p/ /ou/ /se/ | ___ / 4 | 19 | bide | /b/ /i/ /de/ | ___ / 3 |
| 10 | clink | /c/ /l/ /i/ /n/ /k/ | ___ / 5 | | | | |

**# Correct _____ / 70**



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*Figure 2. Kindergarten Distributions for Letter Sounds and Phoneme Segments from Fall to Winter to Spring Performances*

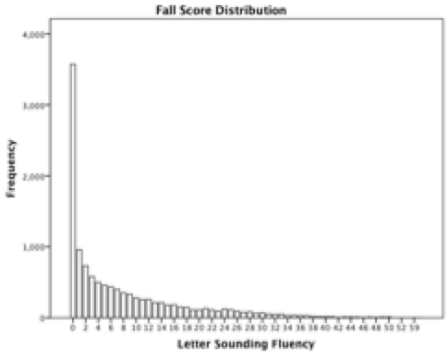
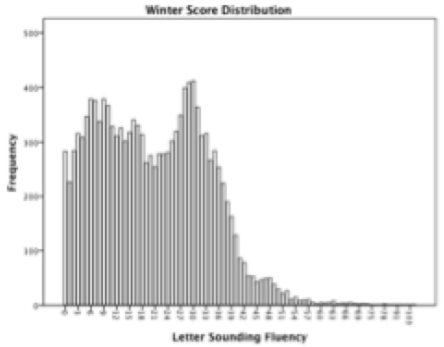
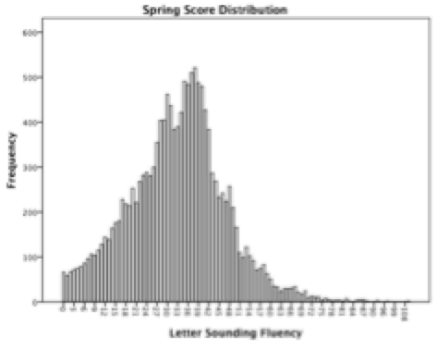
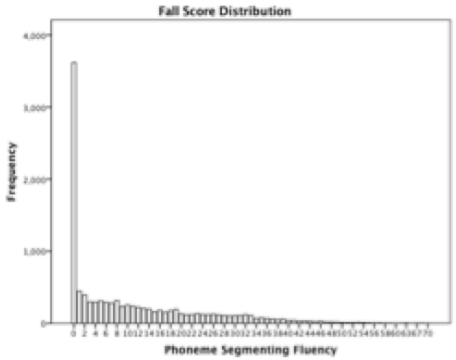
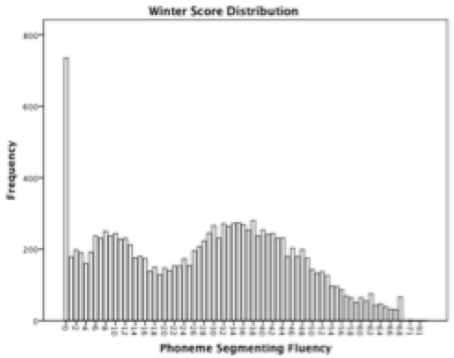
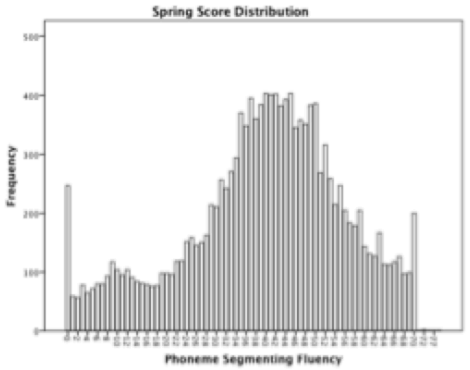
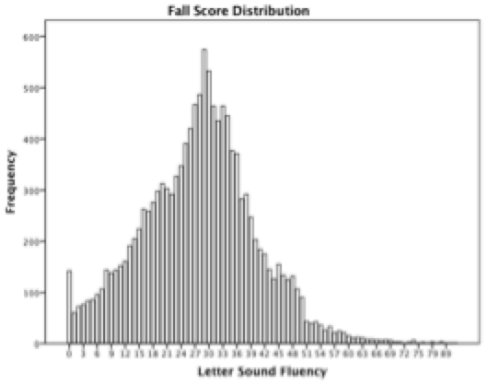
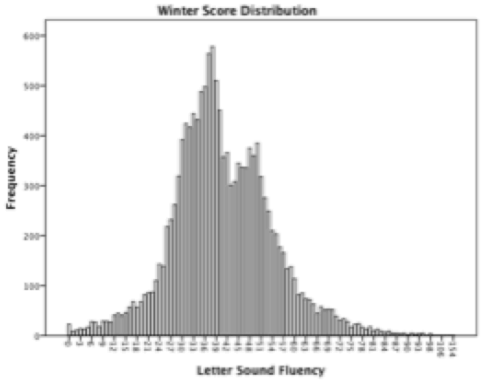
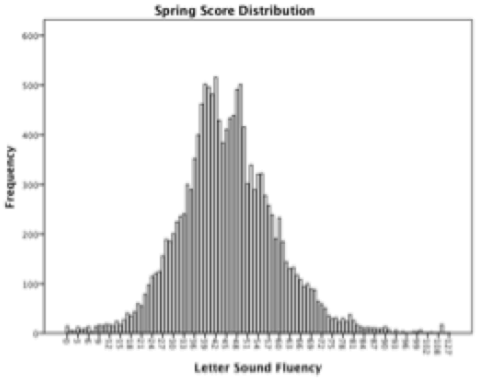
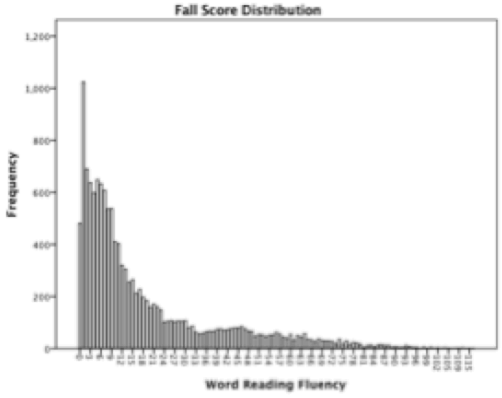
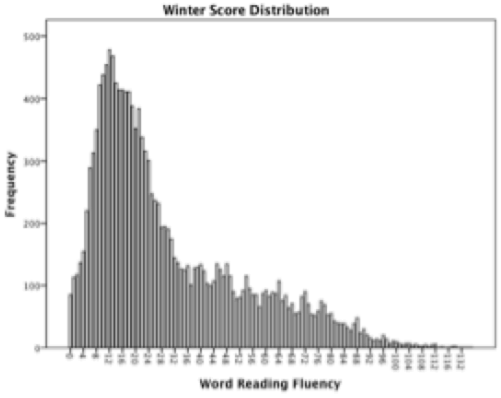
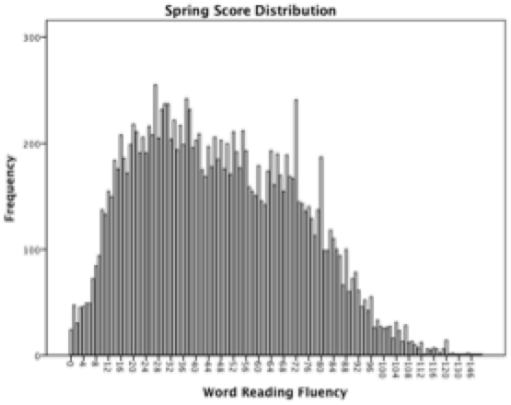
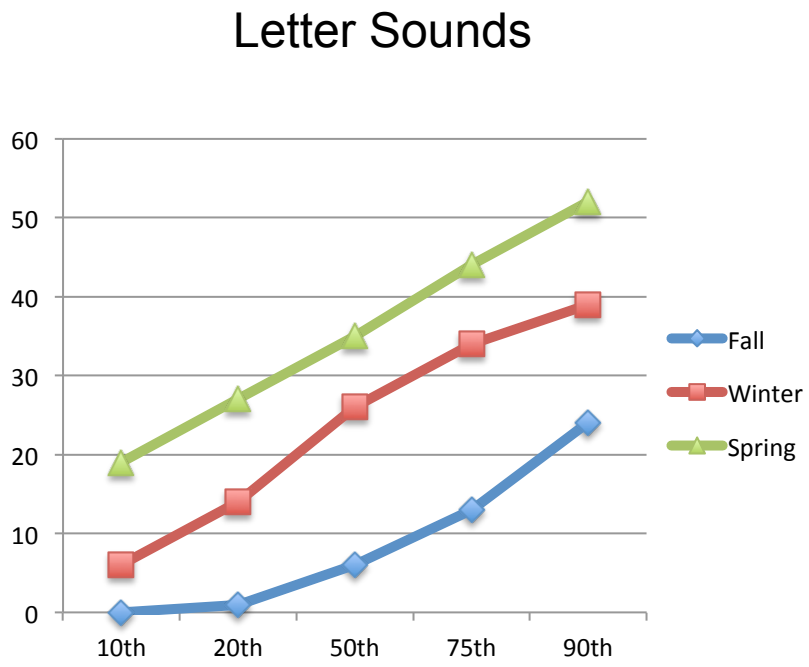
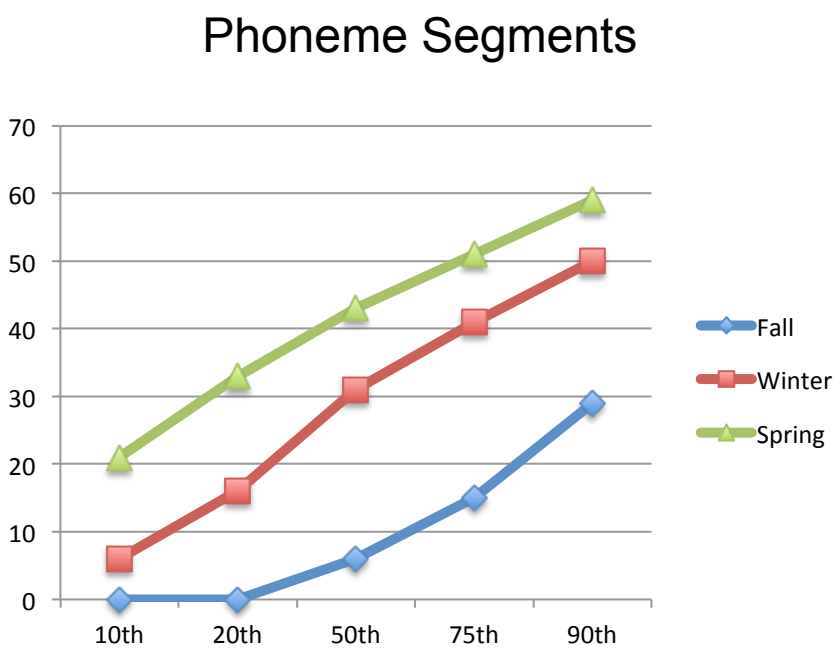
| Measure | Fall Distribution | Winter Distribution | Spring Distribution |
|---|---|---|---|
| Letter Sounds |  |  |  |
| Phoneme Segments |  |  |  |

*Figure 3. Grade 1 Distributions for Letter Sounds and Phoneme Segments for Fall, Winter, and Spring Performances*

| Measure | Fall Distribution | Winter Distribution | Spring Distribution |
|---|---|---|---|
| Letter Sounds |   |   |   |
| Word Reading Fluency |   |   |   |

# Random Sample (500) in F-W-S: Percentile Ranks



# Letter Names (LN): Stratified Random Sample (500)

| Region | N | Ave | SD |
|---|---|---|---|
| MW | 500 | 25.0 | 15.7 |
| NE | 500 | 22.8 | 14.3 |
| SE | 500 | 27.3 | 16.7 |
| W | 500 | 19.2 | 15.0 |

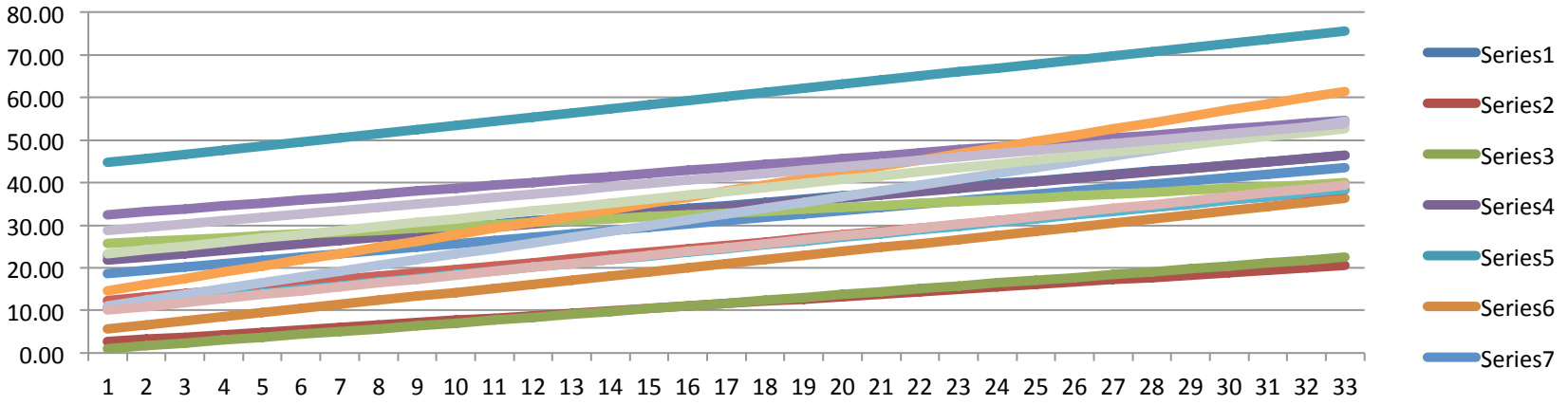
| Students | N | Ave | SD |
|---|---|---|---|
| White Females | 500 | 21.0 | 14.2 |
| White Males | 500 | 19.2 | 14.9 |
| Non White Females | 500 | 13.8 | 13.7 |
| Non White Males | 500 | 14.7 | 15.6 |

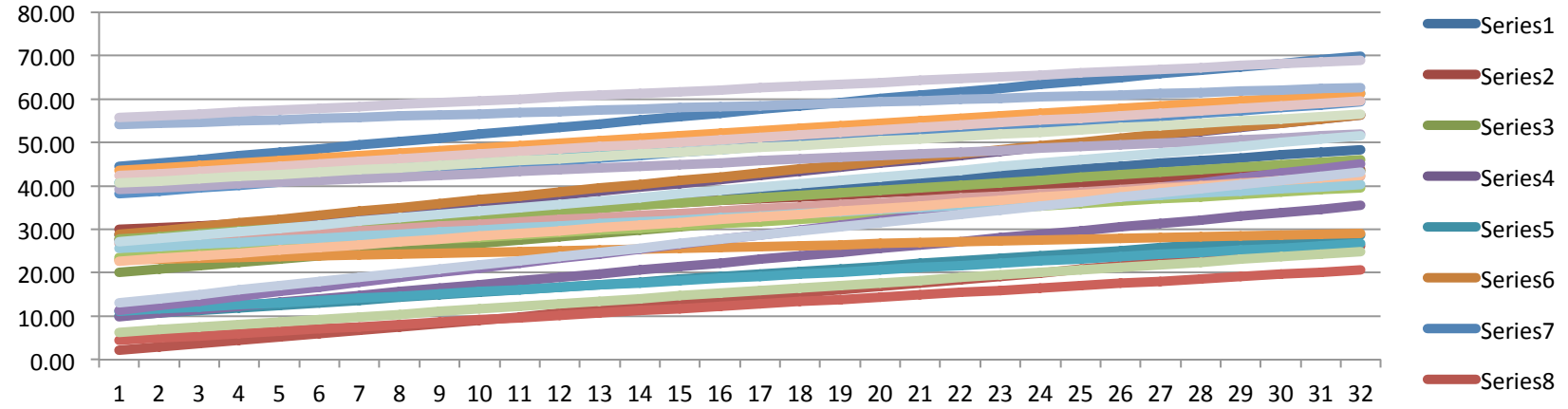
# LN for Risk (Fall): Percentile Ranks (500)

| Region | 5th PR | 10th PR | 15th PR | 20th PR | 25th PR | 30th PR | 50th PR | 75th PR | 90th PR |
|---|---|---|---|---|---|---|---|---|---|
| MW | 2 | 3 | 5 | 8 | 11 | 14 | 25 | 35 | 45 |
| NE | 2 | 4 | 7 | 8 | 11 | 13 | 23 | 33 | 42 |
| SE | 0 | 3 | 6 | 9 | 14 | 17 | 29 | 39 | 46 |
| W | 0 | 2 | 3 | 5 | 8 | 8 | 17 | 31 | 44 |
| **MEDIAN** | | 3 | | | 11 | | 24 | 34 | 45 |

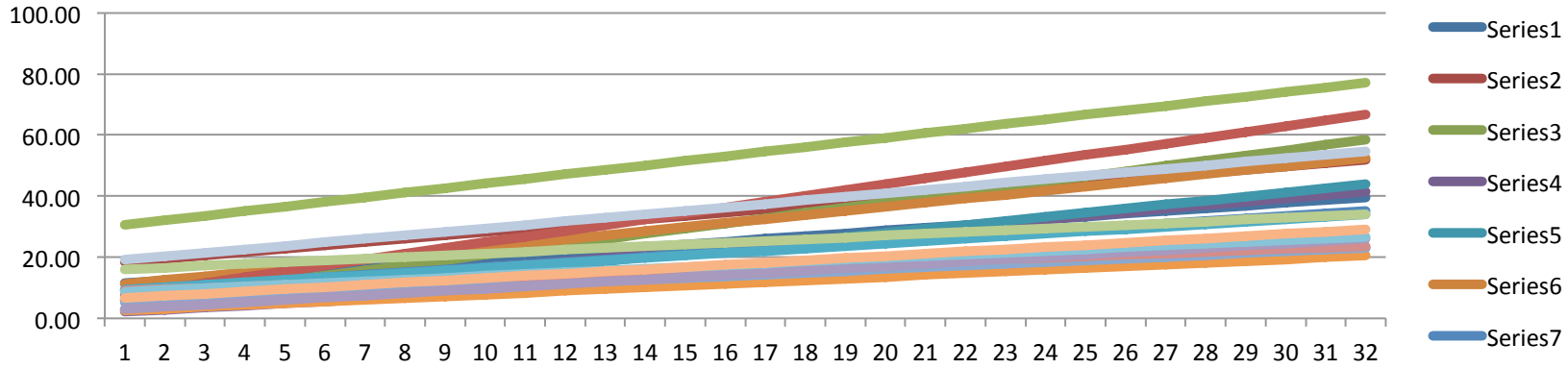
| Students | 5th PR | 10th PR | 15th PR | 20th PR | 25th PR | 30th PR | 50th PR | 75th PR | 90th PR |
|---|---|---|---|---|---|---|---|---|---|
| White Females | 1 | 3 | 5 | 7 | 8 | 10 | 20 | 32 | 41 |
| White Males | 1 | 2 | 4 | 5 | 7 | 8 | 15 | 29 | 39 |
| Non White Females | 0 | 0 | 1 | 2 | 3 | 4 | 9 | 22 | 36 |
| Non White Males | 0 | 0 | 1 | 2 | 2 | 3 | 9 | 25 | 38 |
| **MEDIAN** | | 1 | | | 5 | | 12 | 27 | 39 |

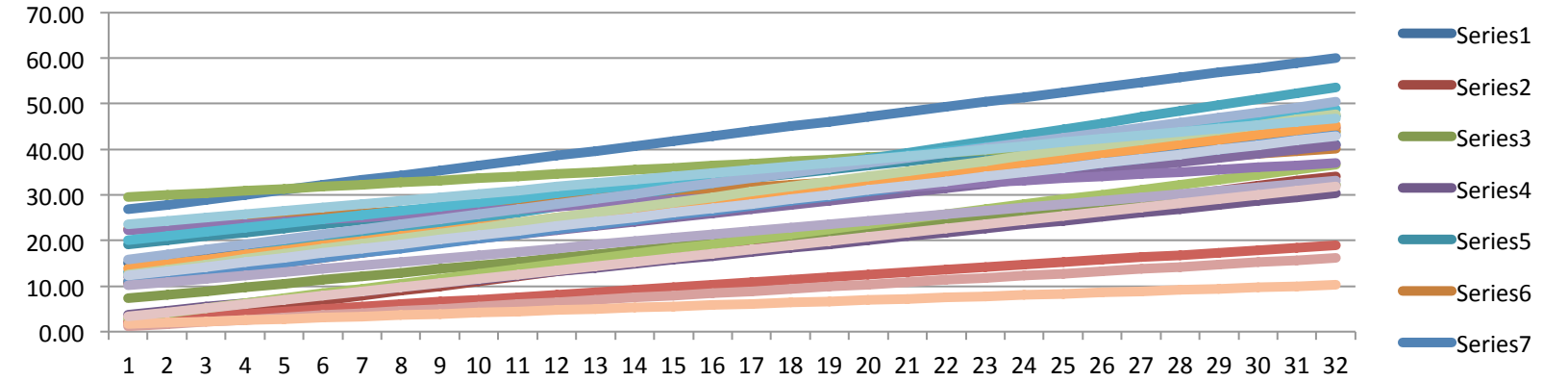
# Letter Name Growth



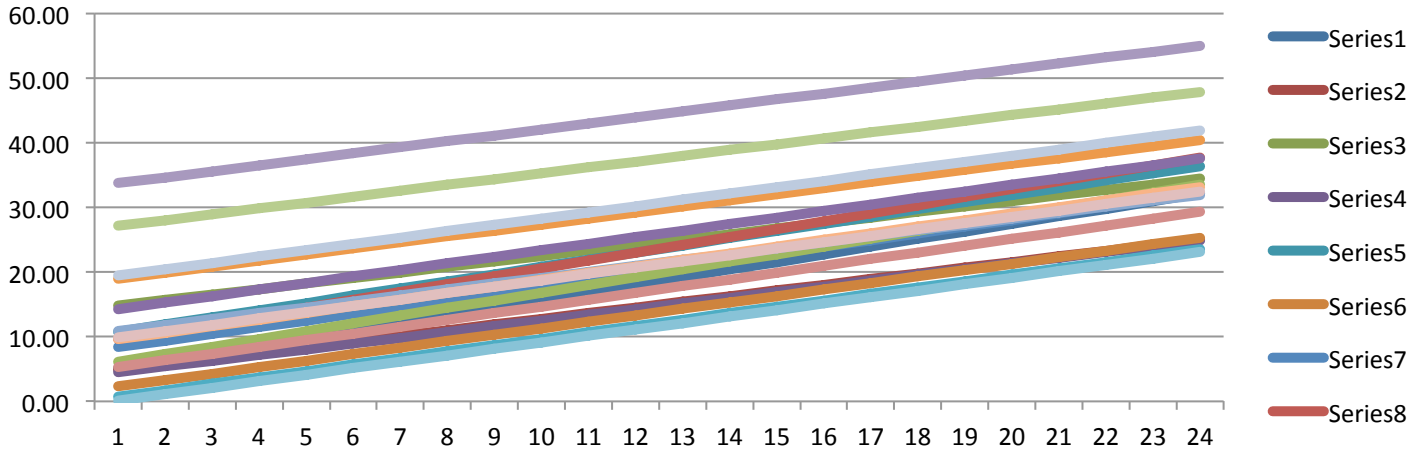



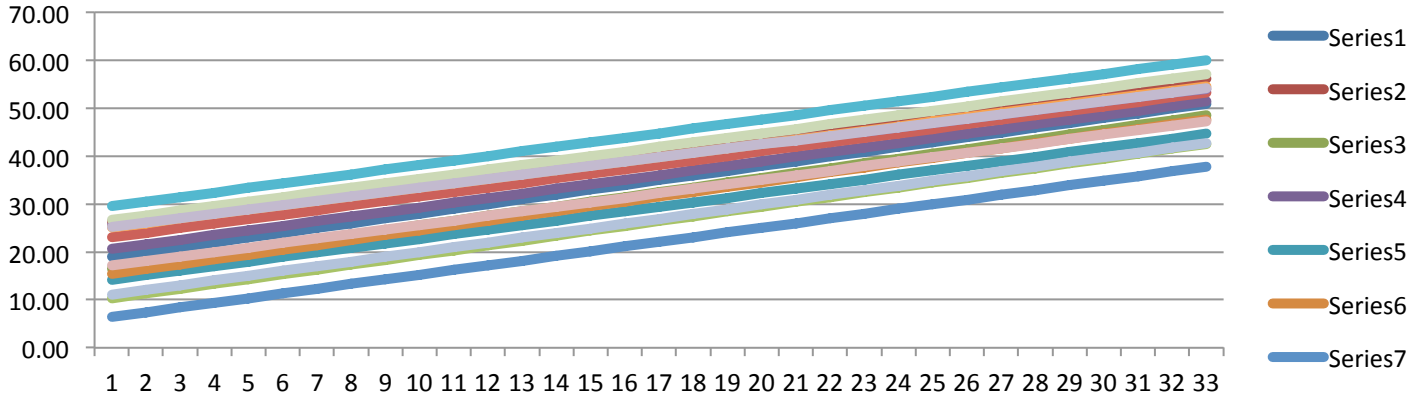
# Letter Sounds Growth



# Phoneme Segment Growth

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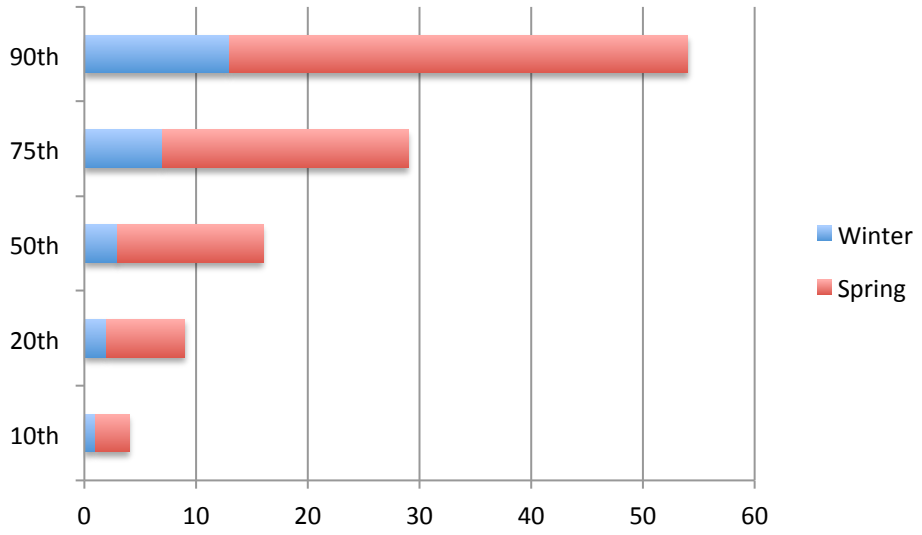
# Reading: Word Fluency in Spring



# Variance of Four Models

| Model | R | R Square | Adj. R Square | SEE | Change Statistics | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | R Sq Change | F Change | df1 | df2 |
| 1 | .062[a] | .004 | .004 | 12.987 | .004 | 16.719 | 2 | 8744 |
| 2 | .487[b] | .238 | .237 | 11.363 | .234 | 1339.996 | 2 | 8742 |
| 3 | .537[c] | .288 | .288 | 10.980 | .051 | 621.220 | 1 | 8741 |
| 4 | .718[d] | .515 | .515 | 9.060 | .227 | 2049.782 | 2 | 8739 |

a. Predictors: (Constant), Gender and Race

b. Predictors: (Constant), Gender and Race, Centered LS Slope, Centered PS slope

c. Predictors: (Constant), Gender and Race, Centered LS Slope, Centered PS slope, LN risk

d. Predictors: (Constant), Gender and Race, Centered LS Slope, Centered PS slope, LN risk, Centered LS Intercept, Centered PS Intercept

# Comparison of Predictors

| Model | | Unstd. Coefficients | | Std. Coefficient | | | Correlations | |
|---|---|---|---|---|---|---|---|---|
| | | B | SE | Beta | t | Sig. | Zero-order | Partial |
| 1 | (Constant) | 16.544 | 0.235 | | 70.408 | < .001 | | |
| | Gender | -1.390 | 0.278 | -0.053 | -5.001 | < .001 | -.053 | -.053 |
| | Race | -0.825 | 0.280 | -0.031 | -2.946 | .003 | -.031 | -.031 |
| 2 | (Constant) | 15.450 | 0.208 | | 74.419 | < .001 | | |
| | Gender | 0.019 | 0.245 | 0.001 | 0.079 | .937 | -.053 | .001 |
| | Race | 0.010 | 0.248 | 0.000 | 0.039 | .969 | -.031 | .000 |
| | Centered LS slope | -0.967 | 0.037 | -0.280 | -25.858 | < .001 | -.422 | -.267 |
| | Centered PS slope | -1.544 | 0.060 | -0.283 | -25.803 | < .001 | -.423 | -.266 |
| 3 | (Constant) | 17.124 | 0.212 | | 80.942 | < .001 | | |
| | Gender | 0.012 | 0.237 | 0.000 | 0.049 | .961 | -.053 | .001 |
| | Race | 0.347 | 0.240 | 0.013 | 1.448 | .148 | -.031 | .015 |
| | Centered LS slope | -0.896 | 0.036 | -0.259 | -24.697 | < .001 | -.422 | -.255 |
| | Centered PS slope | -1.249 | 0.059 | -0.229 | -21.148 | < .001 | -.423 | -.221 |
| | LN risk | -6.977 | 0.280 | -0.235 | -24.924 | < .001 | -.351 | -.258 |
| 4 | (Constant) | 15.591 | 0.177 | | 88.323 | < .001 | | |
| | Gender | .0108 | 0.195 | 0.004 | 0.554 | .579 | -.053 | .006 |
| | Race | -0.680 | 0.200 | -0.026 | -3.398 | < .001 | -.031 | -.036 |
| | Centered LS slope | -0.662 | 0.031 | -0.192 | -21.158 | < .001 | -.422 | -.221 |
| | Centered PS slope | 0.728 | 0.150 | 0.133 | 4.854 | < .001 | -.423 | .052 |
| | LN risk | 0.438 | 0.258 | 0.015 | 1.694 | .090 | -.351 | .018 |
| | Centered LS intercept | -1.161 | 0.020 | -0.595 | -56.731 | < .001 | -.694 | -.519 |
| | Centered PS intercept | -0.374 | 0.060 | -0.175 | -6.245 | < .001 | -.470 | -.067 |

# For More Information

http://www.brtprojects.org

http://easyCBM.com

http://ncaase.com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