Learning to Read: A Review of Research on Growth in Reading Skills

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Behavioral Research and Teaching

College of Education – UO

Funding Acknowledgements

Funds for the data set used to generate this report came from a federal grant awarded to the UO from the Institute of Education Sciences, U.S. Department of Education:

- Reliability and Validity Evidence for Progress Measures in Reading (R324A100014 funded from June 2010 - June 2014)
- National Center on Assessment and Accountability for Special Education (R32C110004 funded from July 2011 - June 2016).

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Disclosure

- We are the authors of easyCBM but have the assigned copyright to the University of Oregon.
- Riverside is the exclusive distributor of easyCBM and provides extensive training and support.
- As authors, we make no profit on this product; income (if any) goes to the UO→BRT to support further research on RTI systems.
- At this point, we have invested approximately 7 million dollars in research and development of easyCBM.

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easyCBM Progress made easy for RTI.

Attention to Oral Reading Fluency

- ORF growth using CBM (Fuchs, Fuchs, & Compton, 2004; Wayman, Wallace, Wiley, Tich'a, & Espin, 2007)
- Complex phenomena (Ardoin & Christ, 2008; Christ, Silberglitt, Yeo, & Cormier, 2010; Deno, Fuchs, Marston, & Shin, 2001; Graney, Missall, Martínez, & Bergstrom, 2009; Nese et al., 2012; Speece, Ritchey, Cooper, Roth, & Schatschneider, 2004)
- Profoundly impacted interpretation of student achievement and growth targets

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)

Early Literacy Measurement

- The Big Five (National Institutes of Child Health and Human Development, 2000)
- NCLB and the *Reading First* initiative - Grade 3 proficiency (Committee on Education and Labor, 2001)

"…additional research is needed to examine the tenability of reading tasks that address an earlier phase of reading" (Fuchs, et al., 2004, p. 7)

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Skill Relations

- Early fluency/sublexical skills (e.g., letter sounds, phoneme awareness) predict later skills (e.g., word reading, ORF, comprehension) (Linklater, O'Connor, and Palardy, 2009; Speece, Ritchey, Cooper, Roth and Schatschneider, 2004; Stage, Sheppard, Davidson, and Browning, 2001)
- Complex and interrelation of early graphemic and phonic reading fluency components – letter sound fluency as a bridge to higher order skills (Ritchey and Speece, 2006)

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easy CBM

Logged in: **brtadmin** (logout)

2/6/2009 - 3:40:02 pm

Home | Students | **Measures** | Reports | Admin | Account

Measures on easyCBM

Select the grade level difficulty of the measure you want to access, then scroll to its section. For measures that can be administered online, have your students go to http://4j.or.easycbm.com/brtadmin and follow the on-screen instructions. For Benchmark measures, your district admin must enable them before they'll show up for your students. For Progress Monitoring measures, mark the checkbox next to each measure you want listed for your students. An answer key for the Benchmark measures is provided below.

Benchmarks | **Progress Monitoring**


Enter Fall Scores


Enter Winter Scores


Enter Spring Scores

Combined Booklets:	Reading		Math
K - 5th Grade	Student Copies	Assessor Copies	Student Copies
6th - 8th Grade	Student Copies	Assessor Copies	Student Copies
9th Grade	Student Copies	Assessor Copies	
All Answer Keys			

By Grade: K | 1 | 2 | **3** | 4 | 5 | 6 | 7 | 8 | 9

Fall Tests

Passage Reading Fluency 3_Fall	Student Copy	Assessor Copy
Vocabulary 3_Fall	Student Copy	or Take Online
Reading Comprehension 3_Fall	Student Copy	or Take Online
Math Computations 3_Fall	Student Copy	or Take Online
Math Applications 3_Fall	Student Copy	or Take Online

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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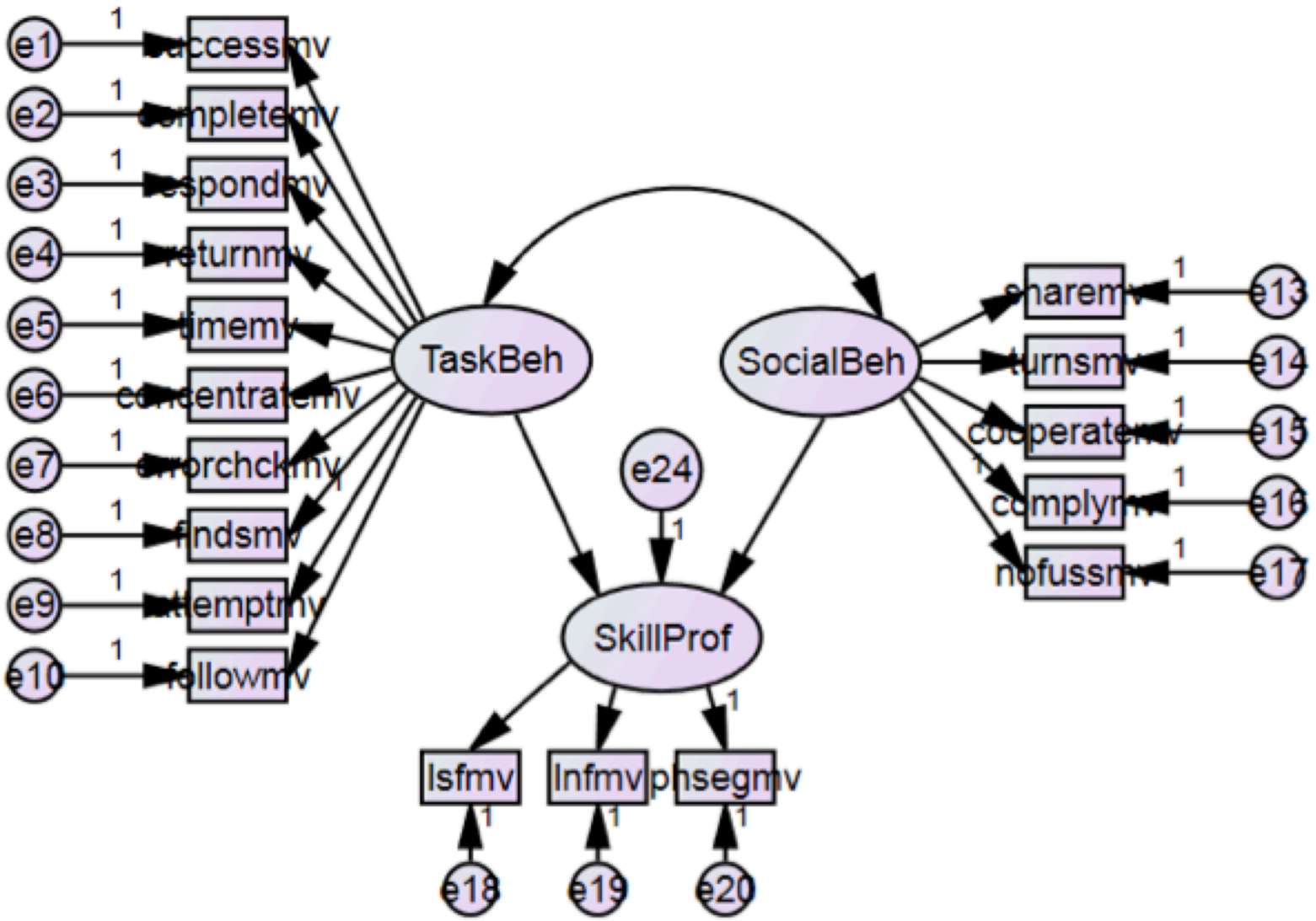
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1

Table 6

Descriptive statistics for early literacy easyCBMs in kindergarten and grade one

	Fall			Winter			Spring		
Measure	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	SD
Kindergarten									
Letter sounds	11,771	7.48	9.49	13,202	20.70	12.92	14,606	32.92	14.03
Phoneme segments	10,893	10.72	12.78	12,472	27.92	17.77	14,110	39.54	16.35
Grade One									
Letter sounds	12,989	27.90	12.35	13,976	40.76	13.49	14,282	45.41	13.82
Word reading fluency	13,252	18.27	20.22	14,856	30.10	23.07	15,322	47.45	25.04

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

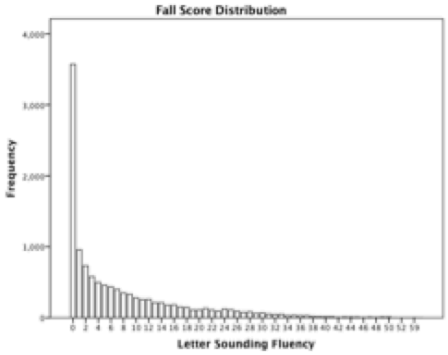
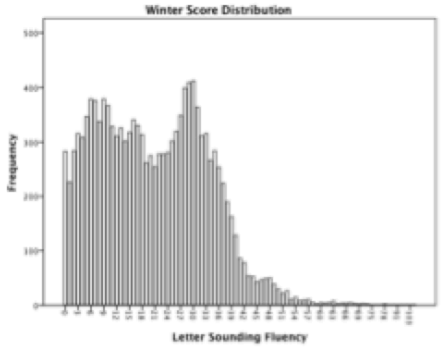
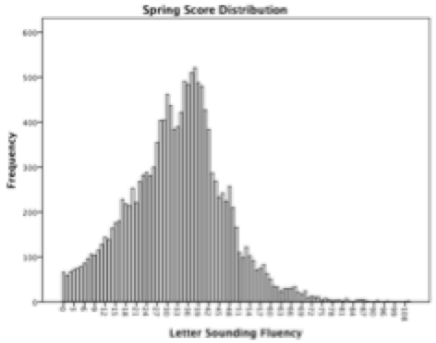
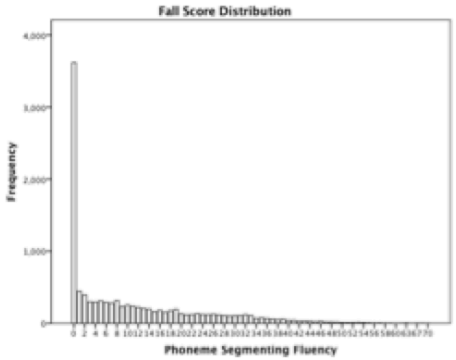
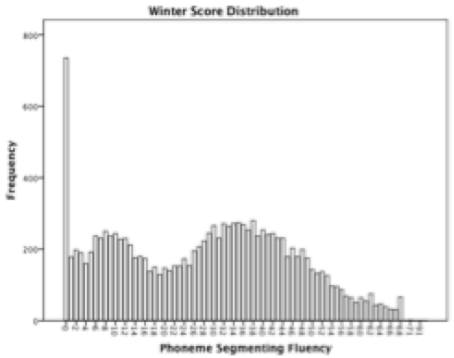
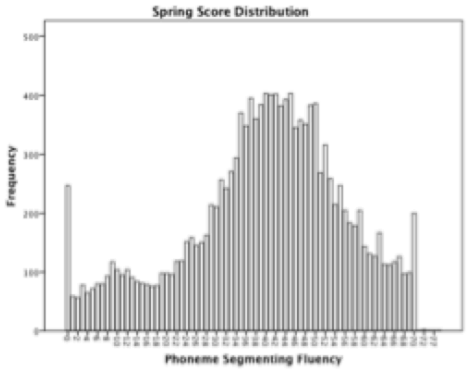
Measure	Fall Distribution	Winter Distribution	Spring Distribution
Letter Sounds			
Phoneme Segments			

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

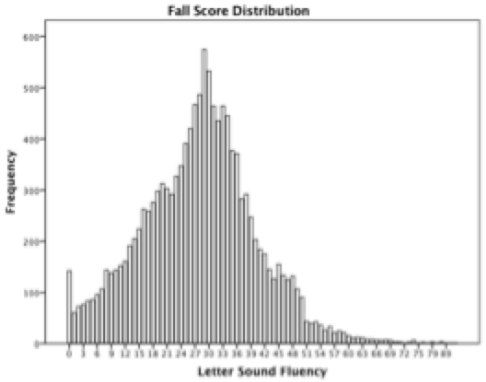
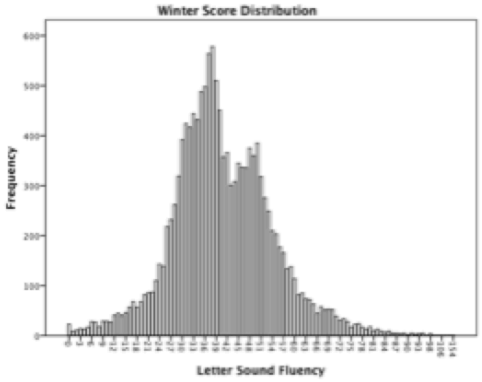
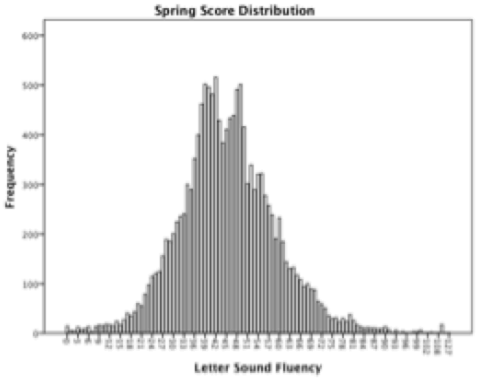
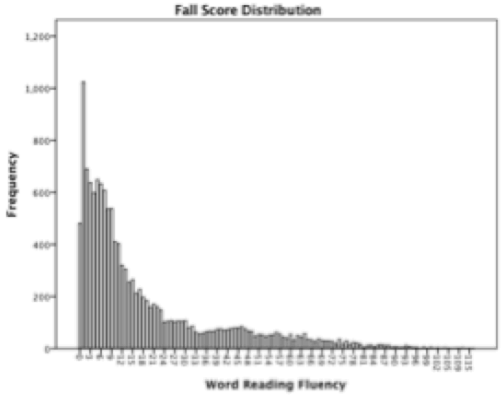
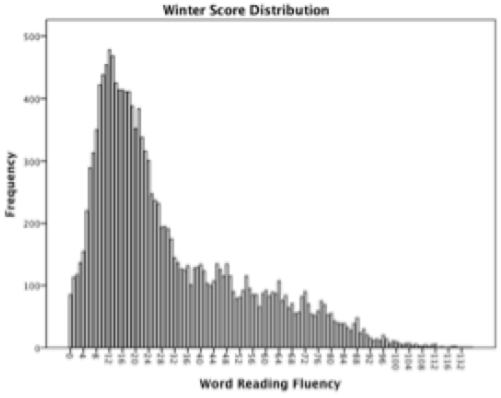
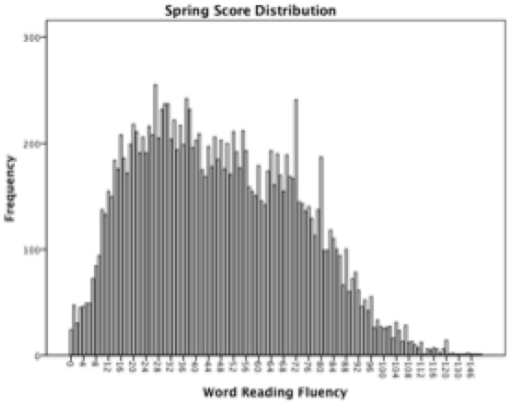
Measure	Fall Distribution	Winter Distribution	Spring Distribution
Letter Sounds			
Word Reading Fluency			

Table 7

Unconditional Model for Kindergarten Students – Letter Sounds

Fixed Effect	Coefficient	*SE*	*t*
Intercept	6.53	0.17	39.00
Slope	.72	.01	107.59

Note. Deviance = 80894.66 with six parameters.

Table 8

Two-level Conditional Model for Kindergarten Students – Letter Sounds

Fixed Effect	Coefficient	*SE*	*t*-ratio	*df*	*p*
Intercept					
INTRCPT	8.32	0.28	29.37	4610	<.001
SEX	-0.70	0.33	-2.09	4610	0.036
DISABILILTY	-3.42	0.47	-7.44	4610	0.000
ETHNICITY	-1.33	0.39	-3.51	4610	0.001
ELL	-5.09	0.40	-12.81	4610	<.001
Slope					
INTRCPT	0.74	0.01	67.24	4610	<.001
SEX	-0.02	0.01	-1.88	4610	0.059
DISABILITY	-0.22	0.02	-10.64	4610	<.001
ETHNICITY	0.01	0.02	0.81	4610	0.426
ELL	-0.01	0.02	-0.27	4610	0.785

Note. Chi square = 403.29, *df* = 8.

Table 11

Unconditional Model for Grade 1 Students – Letter Sounds

Fixed Effect	*Coefficient*	*SE*	*t*
Intercept	29.22	0.20	143.132
Slope	.49	.01	73.25

Note. Deviance = 96859.30 with six parameters.

Table 12

Two-Level Conditional Model for Grade 1 Students – Letter Sounds

Fixed Effect	Coefficient	*SE*	*t*-ratio	*df*	*p*
Intercept					
INTRCPT	32.11	0.32	101.84	4698	<.001
SEX	-1.24	0.39	-3.19	4698	0.002
DISABILILTY	-10.11	0.65	-15.53	4698	<.001
ETHNICITY	-0.61	0.48	-1.31	4698	0.191
ELL	-6.34	0.65	-9.74	4698	<.001
Slope					
INTRCPT	0.48	0.01	44.28	4698	<.001
SEX	0.00	0.01	-0.20	4698	0.844
DISABILITY	0.04	0.02	2.14	4698	0.032
ETHNICITY	-0.03	0.02	-1.78	4698	0.077
ELL	0.17	0.02	6.62	4698	<.001

Note. Chi square = 498.43, $df = 8$, $p < .001$.

In Today's News and at AERA

"The 2011-2012 school year was the worst in a decade for progress in access to high-quality pre-K for America's children."

"The state of preschool in America is a state of emergency."

--Steven Barnett and colleagues, *The State of Preschool 2012*, National Institute for Early Education Research

A confluence of emphasis on early literacy by researchers and politicians that calls for more thorough investigation and explication.

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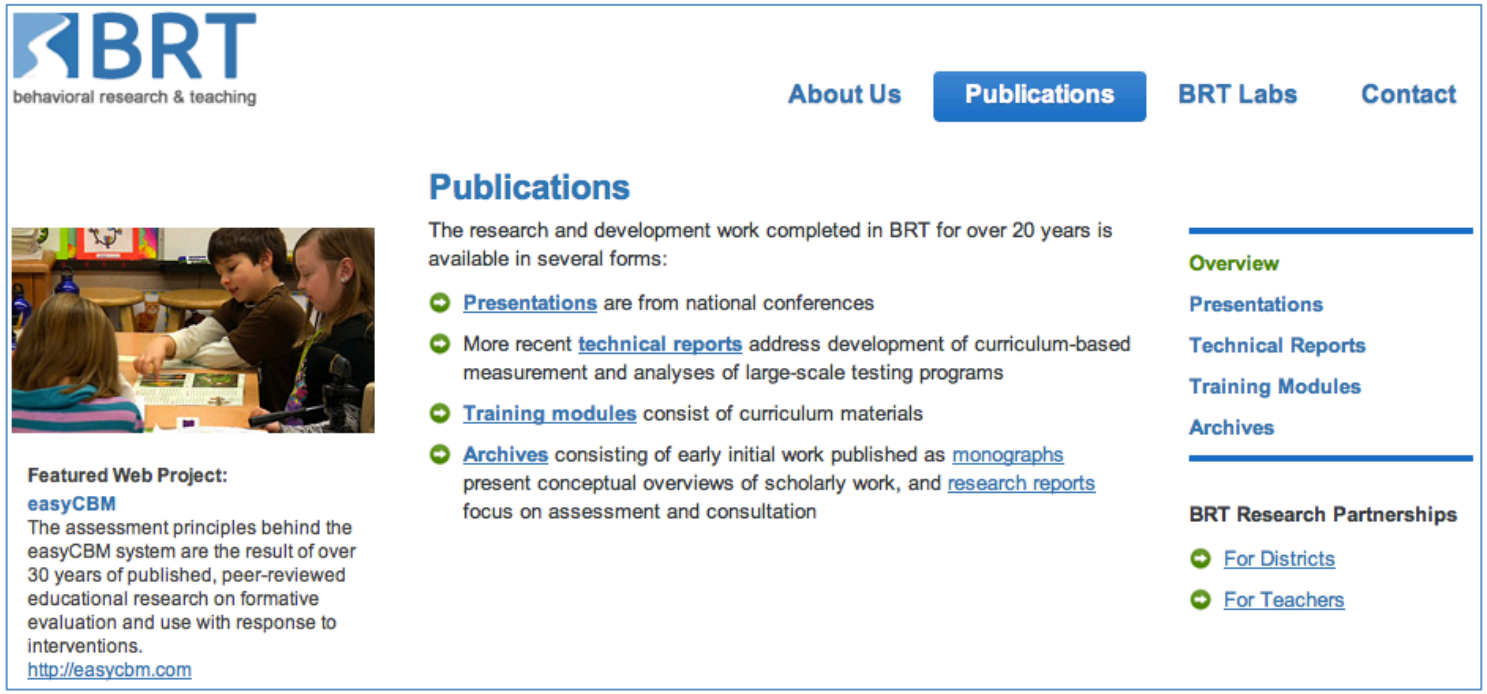
For More Information

http://www.brtprojects.org

http://easyCBM.com



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