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Oral Reading Fluency: 90 Years of Measurement

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Abstract

Data are presented from a number of different sites in which oral reading fluency was measured using the procedures commonly ascribed to curriculum-based measurement (CBM). This measurement system focuses on automaticity in reading and therefore students are directed to read aloud from grade level passages for one minute, with words read correctly counted. Data are presented across various sites, compiling the outcomes across various passages and depicting the results in both average performance and percentile bands for fall, winter, and spring across grades 1-8. These data are referred to as normative because of the large sample and robust passage sampling.

Introduction

“In every branch of instruction in the public schools we need a definite standard of attainment to be reached at the end of each grade. If we had such standards and if we had adequate means of precisely measuring efficiency, it would be possible for a qualified person to go into a schoolroom and measure the attainment in any or all subjects and determine on the basis of his measurements whether the pupils are up to the standard, whether they are deficient, and in what specific respect” (p. 14, Starch, 1915).

Although this quote sounds like something applicable to the standards of 2004, it actually occurred almost 90 years ago. Not only did he propose standards but actually attained them as “universal standards that would be obtained from tests in many schools in various cities” (p. 15). In table 1, the results have been displayed in his original metric (words per second) as well as the more current manner of reporting (words per minute). These data were obtained from “3,511 pupils in 15 schools in seven cities located in three states (Wisconsin, Minnesota, and New York)” (p. 14).

Table 1
Norms Reported by Starch in 1915

Grade:	1	2	3	4	5	6	7	8
Words/Second	1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.0
Words/Minute	90	108	126	144	168	192	216	240

The question is how do they compare with the norms published by Hasbrouck and Tindal in 1992. In table 2, we display the results from that effort, reflecting the 50th percentile rank from several thousand students in several districts at each grade tested in the spring. Clearly, the reading proficiency of students has deteriorated (assuming comparable populations).

Table 2
Norms Reported by Hasbrouck and Tindal in 1992

Grade:	2	3	4	5
Words/Minute	94	114	118	128

To ascertain the stability of these performance levels, we recently collected data from thousands of students across the country. In table 3, we have displayed the comparable results of reading fluency in grades 1 to 8 in the spring.

Table 3
Norms Reported by Hasbrouck and Tindal in 2005

Grade:	1	2	3	4	5	6	7	8
Words/Minute	59	89	107	125	138	150	150	150

While performance modulates slightly across the grades, the average reading performance has remained remarkably stable for the past 15 years. Following are the percentile breakdowns for all grades by season (fall, winter, and spring).

References

Hasbrouck, J. & Tindal, G. (1992). Curriculum-based oral reading fluency norms for students in grades 2 through 5. *Teaching Exceptional Children*, 24(3), 41-44.

Starch, D. (1915). The measurement of efficiency in reading. *The Journal of Educational Psychology*, 6(1), 1-24.

First Grade Descriptive Information about Participants by Season

Season	Winter	Spring
Number of States	21	20
Number of Records	16950	19434
Gender Girls	5229 (30.85%)	6665 (34.30%)
Gender Boys	5487 (32.37%)	7026 (36.15%)
Gender Not Reported	6234 (36.78%)	5743 (29.55%)

First Grade Descriptive Statistics for ORF Scores by Season

Season	Winter	Spring
Mean	34	58.88
Standard Deviation	31.93	38.48
10 th Percentile	6	15
20 th Percentile	10	24
25 th Percentile	12	28
30 th Percentile	14	33
40 th Percentile	18	43
50 th Percentile	23	53
60 th Percentile	29	64
70 th Percentile	39	76
75 th Percentile	46.75	82
80 th Percentile	55	90
90 th Percentile	81	111

Second Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	20	21	20
Number of Records	15896	18229	20128
Gender Girls	5666 (35.64%)	6463 (35.45%)	7424 (36.88%)
Gender Boys	5549 (34.91%)	6404 (35.13%)	7492 (37.22%)
Gender Not Reported	4681 (29.45%)	5362 (29.41%)	5212 (25.89%)

Second Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	55.49	72.85	89.28
Standard Deviation	37	40.62	41.95
10 th Percentile	11	18	31
20 th Percentile	20	33	54
25 th Percentile	25	42	61
30 th Percentile	30	49	68
40 th Percentile	41	61	79
50 th Percentile	51	72	89
60 th Percentile	62	84	100
70 th Percentile	72	94	111
75 th Percentile	79	100	117
80 th Percentile	86	107	124
90 th Percentile	106	125	142

Third Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	22	23	21
Number of Records	16988	17383	18372
Gender Girls	6628 (39.02%)	6215 (35.75%)	7013 (38.17%)
Gender Boys	6699 (39.43%)	6440 (37.05%)	7144 (38.90%)
Gender Not Reported	3661 (21.55%)	4728 (27.20%)	4215 (22.94%)

Third Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	73.5	91.91	106.91
Standard Deviation	40.22	42.65	44.09
10 th Percentile	21	36	48
20 th Percentile	37	54	70
25 th Percentile	44	62	78
30 th Percentile	50	69	85
40 th Percentile	61	82	96
50 th Percentile	71	92	107
60 th Percentile	82	102	118
70 th Percentile	92	113	130
75 th Percentile	99	120	137
80 th Percentile	107	127	143
90 th Percentile	128	146	162

Fourth Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	22	23	22
Number of Records	16523	14572	16269
Gender Girls	6126 (37.08%)	4841 (33.22%)	5758 (35.39%)
Gender Boys	6318 (38.24%)	4961 (34.04%)	5985 (36.79%)
Gender Not Reported	4079 (24.69%)	4770 (32.73%)	4526 (27.82%)

Fourth Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	94.66	112.88	124.81
Standard Deviation	39.55	41.26	43.26
10 th Percentile	45	61	72
20 th Percentile	62	80	91
25 th Percentile	68	87	98
30 th Percentile	74	93	103
40 th Percentile	84	103	113
50 th Percentile	94	112	123
60 th Percentile	103	122	134
70 th Percentile	113	133	146
75 th Percentile	119	139	152
80 th Percentile	126	146	160
90 th Percentile	145	166	180

Fifth Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	21	22	21
Number of Records	16212	13331	15292
Gender Girls	5345 (32.97%)	4095 (30.72%)	5475 (35.80%)
Gender Boys	5703 (35.18%)	4343 (32.58%)	5707 (37.32%)
Gender Not Reported	5164 (31.85%)	4893 (36.70%)	4110 (26.88%)

Fifth Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	113.37	127.34	138.13
Standard Deviation	45.36	43.56	44.77
10 th Percentile	61	74	83
20 th Percentile	79	92	101
25 th Percentile	85	99	109
30 th Percentile	91	105	115
40 th Percentile	101	116	127
50 th Percentile	110.25	127	139
60 th Percentile	121	137	150
70 th Percentile	132	150	161
75 th Percentile	139	156	168
80 th Percentile	147	163	175
90 th Percentile	166	182	194

Sixth Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	17	16	16
Number of Records	10520	9218	11290
Gender Girls	4432 (42.13%)	3530 (38.29%)	4361 (38.63%)
Gender Boys	4710 (44.77%)	3739 (40.56%)	4669 (41.36%)
Gender Not Reported	1378 (13.10%)	1949 (21.14%)	2260 (20.02%)

Sixth Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	124.70	139.13	149.15
Standard Deviation	42.72	44.73	44.13
10 th Percentile	68	82	93
20 th Percentile	91	104	114
25 th Percentile	98	111	122
30 th Percentile	104	118	129
40 th Percentile	115	130	140
50 th Percentile	127	140	150
60 th Percentile	137	150	161
70 th Percentile	148	162	171
75 th Percentile	153	167	177
80 th Percentile	160	175	185
90 th Percentile	177	195	204

Seventh Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	11	9	9
Number of Records	6482	4058	5998
Gender Girls	2745 (42.35%)	1532 (37.75%)	2308 (38.48%)
Gender Boys	2760 (42.58%)	1550 (38.20%)	2364 (39.41%)
Gender Not Reported	977 (15.07%)	976 (24.05%)	1326 (22.11%)

Seventh Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	128.63	137.53	150.01
Standard Deviation	40.81	42.54	41.17
10 th Percentile	79	88	98
20 th Percentile	95	103	116
25 th Percentile	101.50	109	123
30 th Percentile	107.15	116	129
40 th Percentile	118	127	140
50 th Percentile	128	136	150
60 th Percentile	138	147	160
70 th Percentile	150	158	171
75 th Percentile	156	165	177
80 th Percentile	162	173	184
90 th Percentile	180	192	202

Eighth Grade Descriptive Information about Participants by Season

Season	Fall	Winter	Spring
Number of States	10	9	9
Number of Records	5546	3496	5335
Gender Girls	2375 (42.82%)	1405 (40.19%)	2160 (40.49%)
Gender Boys	2597 (46.83%)	1529 (43.74%)	2363 (44.29%)
Gender Not Reported	574 (10.35%)	562 (16.08%)	812 (15.22%)

Eighth Grade Descriptive Statistics for ORF Scores by Season

Season	Fall	Winter	Spring
Mean	133.23	143.84	149.94
Standard Deviation	42.60	45.26	40.58
10 th Percentile	77	84	97
20 th Percentile	98	107	116
25 th Percentile	106	115	124
30 th Percentile	112	123	130
40 th Percentile	124	135	142
50 th Percentile	133	146	151
60 th Percentile	145	155	161
70 th Percentile	155	166	171
75 th Percentile	161	173	177
80 th Percentile	168	180	183
90 th Percentile	185	199	199