MADISON METROPOLITAN SCHOOL DISTRICT

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APPENDIX LLL-8-10
February 8, 2010

DATE: Wednesday, January 27, 2010

TO: Daniel Nerad, Superintendent

FROM: Kurt Kiefer, Chief Information Officer

SUBJ: Value Added Report

Attached are the most recent results from our MMSD value added analysis project, and effort in which we are collaborating with the Wisconsin center for Educational Research Value Added Research Center (WCER VARC). These data include the two-year models for both the 2006-2008 and 2005-2007 school year spans. This allows us in a single report to view value added performance for consecutive intervals of time and thereby begin to identify trends. Obviously, it is a trend pattern that will provide the greatest insights into best practices in our schools.

As it relates to results, there do seem to be some patterns emerging among elementary schools especially in regard to mathematics. As for middle schools, the variation across schools is once again – as it was last year with the first set of value added results – remarkably narrow, i.e., schools perform very similar to each other, statistically speaking.

Also included in this report are attachments that show the type of information used with our school principals and staff in their professional development sessions focused on how to interpret and use the data meaningfully. The feedback from the sessions has been very positive.

VALUE ADDED OF ELEMENTARY AND MIDDLE SCHOOLS IN MADISON METROPOLITAN SCHOOL DISTRICT

Value Added Research Center
Wisconsin Center for Education Research

Table E1: Value Added By School

Table E1 presents value added at the school level for 28 elementary schools in Madison Metropolitan School District. Values added are presented for two overlapping time periods: the period between the November 2005 to November 2007 WKCE administrations, and the more recent period between the November 2006 and November 2008 WKCE. This presents value added as a two-year moving average to increase precision and avoid overinterpretation of trends. Value added is measured in reading and math.

VA is equal to the school's value added. It is equal to the number of extra points students at a school scored on the WKCE relative to observationally similar students across the district. A school with a zero value added is an average school in terms of value added. Students at a school with a value added of 3 scored 3 points higher on the WKCE on average than observationally similar students at other schools.

Std. Err. is the standard error of the school's value added. Because schools have only a finite number of students, value added (and any other school-level statistic) is measured with some error. Although it is impossible to ascertain the sign of measurement error, we can measure its likely magnitude by using its standard error. This makes it possible to create a plausible range for a school's true value added. In particular, a school's measured value added plus or minus 1.96 standard errors provides a 95 percent confidence interval for a school's true value added.

N is the number of students used to measure value added. It covers students whose WKCE scores can be matched from one year to the next.

Table E1, Part 1: Elementary School Value Added, Nov. 2006 - Nov. 2008

Code	School	Math			Reading		
		VA	Std. Err.	N	VA	Std. Err.	N
225	Allis Elementary	-2.33	(1.09)	409	-4.19	(1.18)	407
110	Cesar Chavez Elementary	-0.51	(1.02)	500	-0.75	(1.10)	492
105	Crestwood Elementary	-2.61	(1.20)	332	-1.23	(1.30)	331
165	Elvehjem Elementary	3.38	(1.16)	350	3.44	(1.26)	348
180	Emerson Elementary	0.33	(1.32)	255	0.29	(1.44)	254
210	Falk Elementary	-1.58	(1.29)	265	-1.54	(1.40)	265
255	Glendale Elementary	-1.08	(1.28)	294	1.82	(1.39)	289
675	Gompers Elementary	0.52	(1.30)	250	1.40	(1.42)	250
48	Hawthorne Elementary	-2.05	(1.27)	283	-1.87	(1.39)	282
660	Huegel Elementary	-2.20	(1.11)	397	-0.94	(1.20)	396
375	Kennedy Elementary	0.77	(1.04)	465	-0.53	(1.12)	466
435	Lake View Elementary	-1.19	(1.37)	224	-0.97	(1.51)	221
475	Leopold Elementary	0.81	(0.97)	547	-1.13	(1.06)	533
15	Lincoln Elementary	1.95	(0.96)	581	2.56	(1.03)	576
65	Lindbergh Elementary	0.28	(1.37)	229	0.19	(1.50)	228
495	Lowell Elementary	-3.87	(1.42)	201	-5.75	(1.56)	200
525	Marquette Elementary	2.81	(1.11)	403	0.83	(1.21)	398
555	Mendota Elementary	-0.17	(1.44)	201	-0.30	(1.58)	201
390	Muir Elementary	-1.81	(1.12)	380	1.19	(1.22)	376
125	Nuestro Mundo Community	0.51	(2.09)	40	3.68	(2.40)	40
615	Orchard Ridge Elementary	1.93	(1.32)	244	-0.92	(1.44)	243
645	Randall Elementary	0.91	(0.94)	610	3.88	(1.01)	606
40	Sandburg Elementary	-2.35	(1.29)	264	-1.14	(1.41)	262
300	Schenk Elementary	-1.41	(1.23)	301	-1.57	(1.34)	302
735	Shorewood Hills Elementary	5.13	(1.25)	304	4.66	(1.37)	292
270	Stephens Elementary	-0.28	(1.09)	419	-2.03	(1.18)	413
780	Thoreau Elementary	-0.34	(1.20)	331	0.69	(1.29)	331
795	Van Hise Elementary	0.65	(1.30)	268	-2.37	(1.41)	267

Table E1, Part 2: Elementary School Value Added, Nov. 2005 - Nov. 2007

Code	School	Math			Reading		
		VA	Std. Err.	N	VA	Std. Err.	N
225	Allis Elementary	-2.92	(1.11)	387	-3.09	(1.16)	386
110	Cesar Chavez Elementary	-0.40	(1.01)	472	-1.81	(1.07)	459
105	Crestwood Elementary	-1.97	(1.17)	336	0.94	(1.22)	333
165	Elvehjem Elementary	3.01	(1.12)	379	1.34	(1.17)	378
180	Emerson Elementary	-1.22	(1.37)	227	-3.43	(1.42)	226
210	Falk Elementary	-2.17	(1.27)	278	-1.38	(1.32)	278
255	Glendale Elementary	-0.09	(1.28)	272	0.84	(1.35)	265
675	Gompers Elementary	-0.73	(1.31)	250	-1.15	(1.35)	250
48	Hawthorne Elementary	-1.86	(1.31)	260	-1.18	(1.36)	259
660	Huegel Elementary	-1.44	(1.10)	385	-1.55	(1.15)	383
375	Kennedy Elementary	-0.63	(1.03)	464	-2.50	(1.07)	464
435	Lake View Elementary	-1.62	(1.39)	216	-1.13	(1.45)	213
475	Leopold Elementary	-0.29	(0.95)	560	0.20	(0.99)	551
15	Lincoln Elementary	4.89	(0.97)	553	4.71	(1.01)	550
65	Lindbergh Elementary	-1.07	(1.40)	208	-1.71	(1.45)	208
495	Lowell Elementary	-1.31	(1.41)	204	-1.66	(1.46)	203
525	Marquette Elementary	3.03	(1.05)	428	1.45	(1.10)	424
555	Mendota Elementary	-1.86	(1.47)	193	0.49	(1.52)	191
390	Muir Elementary	-1.00	(1.15)	349	3.19	(1.19)	347
615	Orchard Ridge Elementary	-0.66	(1.31)	247	-1.02	(1.36)	245
645	Randall Elementary	0.84	(0.90)	627	3.32	(0.94)	626
40	Sandburg Elementary	-1.77	(1.31)	258	-0.53	(1.36)	257
300	Schenk Elementary	-0.43	(1.23)	299	-1.88	(1.28)	298
735	Shorewood Hills Elementary	4.91	(1.20)	330	2.99	(1.26)	323
270	Stephens Elementary	0.19	(1.09)	410	-1.89	(1.14)	408
780	Thoreau Elementary	0.43	(1.17)	335	-0.49	(1.21)	336
795	Van Hise Elementary	-2.69	(1.32)	244	-1.05	(1.37)	243

Table M1: Value Added By School

Table M1 presents value added at the school level for 11 middle schools in Madison Metropolitan School District. Values added are presented for two overlapping time periods: the period between the November 2005 to November 2007 WKCE administrations, and the more recent period between the November 2006 and November 2008 WKCE. This presents value added as a two-year moving average to increase precision and avoid overinterpretation of trends. Value added is measured in reading and math.

VA is equal to the school's value added. It is equal to the number of extra points students at a school scored on the WKCE relative to observationally similar students across the district. A school with a zero value added is an average school in terms of value added. Students at a school with a value added of 3 scored 3 points higher on the WKCE on average than observationally similar students at other schools.

Std. Err. is the standard error of the school's value added. Because schools have only a finite number of students, value added (and any other school-level statistic) is measured with some error. Although it is impossible to ascertain the sign of measurement error, we can measure its likely magnitude by using its standard error. This makes it possible to create a plausible range for a school's true value added. In particular, a school's measured value added plus or minus 1.96 standard errors provides a 95 percent confidence interval for a school's true value added.

N is the number of students used to measure value added. It covers students whose WKCE scores can be matched from one year to the next.

Table M1, Part 1: Middle School Value Added, Nov. 2006 - Nov. 2008

Code	School	Math VA	Math Std. Err.	Math N	Reading VA	Reading Std. Err.	Reading N
690	Black Hawk Middle	0.24	(0.75)	429	1.21	(1.00)	427
90	Cherokee Heights Middle	0.25	(0.67)	658	-0.99	(0.86)	658
810	Hamilton Middle	-0.01	(0.63)	922	2.21	(0.79)	916
440	James Wright Middle	-0.05	(0.79)	322	0.20	(1.10)	309
370	Jefferson Middle	-0.77	(0.73)	498	0.37	(0.96)	497
540	O'Keefe Middle	0.86	(0.72)	507	-1.75	(0.94)	506
665	Sennett Middle	-1.31	(0.65)	750	-1.25	(0.83)	744
710	Sherman Middle	0.10	(0.72)	519	0.69	(0.95)	517
850	Spring Harbor Middle	1.17	(0.78)	340	0.63	(1.05)	338
620	Toki Middle	0.00	(0.66)	707	-1.19	(0.84)	703
315	Whitehorse Middle	0.43	(0.71)	556	-0.09	(0.92)	556

Table M1, Part 2: Middle School Value Added, Nov. 2005 - Nov. 2007

Code	School	Math VA	Math Std. Err.	Math N	Reading VA	Reading Std. Err.	Reading N
690	Black Hawk Middle	-0.92	(0.81)	439	-1.14	(0.85)	443
90	Cherokee Heights Middle	1.35	(0.76)	552	-0.69	(0.80)	568
810	Hamilton Middle	0.00	(0.65)	872	0.50	(0.71)	872
440	James Wright Middle	0.59	(0.89)	295	1.10	(0.92)	294
370	Jefferson Middle	-0.36	(0.77)	528	-0.75	(0.81)	534
540	O'Keefe Middle	1.51	(0.80)	460	0.60	(0.84)	460
665	Sennett Middle	-0.24	(0.69)	704	0.92	(0.74)	713
710	Sherman Middle	-0.61	(0.73)	588	-0.23	(0.78)	594
850	Spring Harbor Middle	1.30	(0.86)	322	0.94	(0.90)	321
620	Toki Middle	-1.30	(0.68)	716	-0.93	(0.74)	713
315	Whitehorse Middle	0.04	(0.77)	503	0.19	(0.82)	503

Table E2: Value Added By Grade

Table E2 presents value added at the grade level. Like the case of school-level value added, these reflect overlapping two-year growth periods, either from November 2005 to November 2007, or November 2006 to November 2008.

The first three columns of Table E2, under the header **Overall**, are the same school-level value-added measures presented in Table E1. **VA** is the value added of the school, and is equal to the number of extra points students at that school scored on the WKCE relative to observationally similar students at other schools. **Std. Err.** is the standard error of value added, and **N** is the number of students used to measure value added.

In the parts of Table E2 that list elementary school value added, the next three columns, under the header **Grade 3 to Grad e 4**, present value added at each school for students who progressed from grade 3 to grade 4. It is equal to the number of extra points students progressing from grade 3 to grade 4 at that school scored on the WKCE relative to observationally similar students making the same grade progression at other schools. Its average across schools is zero. **Std. Err.** is the standard error of this value added measure. **N** is the number of students used to measure value added.

The value added measures under the header **Grade 4 to Grade 5** and **Grade 5 to Grade 6** are analogous to those under the Grade 3 to Grade 4 header. In all these cases, grade-level value added measures a school's value added specifically for those students making a specific grade progression.

Table E2, Part 1: Elementary School Math Value Added by Grade, Nov. 2006 - Nov. 2008

Code	School	Overall			Grade 3 to Grade 4			Grade 4 to Grade 5			Grade 5 to Grade 6		
		VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N
225	Allis Elementary	-2.33	(1.09)	409	-11.46	(2.49)	124	1.87	(1.78)	146	0.22	(1.80)	139
110	Cesar Chavez Elementary	-0.51	(1.02)	500	-2.82	(2.10)	184	-0.48	(1.71)	167	2.00	(1.75)	149
105	Crestwood Elementary	-2.61	(1.20)	332	-4.22	(2.51)	122	-1.66	(1.91)	111	-0.90	(2.01)	99
165	Elvehjem Elementary	3.38	(1.16)	350	8.06	(2.58)	113	1.92	(1.87)	122	-0.30	(1.92)	115
180	Emerson Elementary	0.33	(1.32)	255	-1.04	(2.88)	83	-0.40	(2.00)	90	2.18	(2.12)	82
210	Falk Elementary	-1.58	(1.29)	265	-2.73	(2.82)	88	-0.98	(2.01)	88	-0.52	(2.07)	89
255	Glendale Elementary	-1.08	(1.28)	294	3.05	(2.66)	105	0.63	(2.02)	86	-5.91	(1.99)	103
675	Gompers Elementary	0.52	(1.30)	250	3.00	(3.00)	76	2.09	(2.00)	92	-3.92	(2.13)	82
48	Hawthorne Elementary	-2.05	(1.27)	283	-2.85	(2.67)	103	3.11	(1.99)	93	-7.28	(2.09)	87
660	Huegel Elementary	-2.20	(1.11)	397	-3.15	(2.43)	131	-3.22	(1.80)	138	1.08	(1.84)	128
375	Kennedy Elementary	0.77	(1.04)	465	3.42	(2.30)	151	-0.86	(1.76)	151	0.25	(1.71)	163
435	Lake View Elementary	-1.19	(1.37)	224	0.61	(2.97)	77	-0.84	(2.09)	73	-2.23	(2.18)	74
475	Leopold Elementary	0.81	(0.97)	547	-0.53	(2.14)	175	-0.87	(1.66)	183	3.58	(1.60)	189
15	Lincoln Elementary	1.95	(0.96)	581	1.61	(1.98)	207	1.53	(1.63)	194	2.06	(1.63)	180
65	Lindbergh Elementary	0.28	(1.37)	229	1.16	(3.05)	73	-1.17	(2.09)	73	1.35	(2.12)	83
495	Lowell Elementary	-3.87	(1.42)	201	-11.77	(3.02)	74	2.29	(2.13)	64	-3.40	(2.27)	63
525	Marquette Elementary	2.81	(1.11)	403	-0.42	(2.47)	127	3.13	(1.86)	125	3.44	(1.77)	151
555	Mendota Elementary	-0.17	(1.44)	201	-1.37	(2.91)	81	0.53	(2.09)	71	-0.01	(2.40)	49
390	Muir Elementary	-1.81	(1.12)	380	0.12	(2.52)	121	-2.51	(1.83)	133	-1.43	(1.86)	126
125	Nuestro Mundo Community	0.51	(2.09)	40	1.72	(3.71)	40						
615	Orchard Ridge Elementary	1.93	(1.32)	244	4.53	(3.00)	76	1.19	(2.04)	83	-0.25	(2.09)	85
645	Randall Elementary	0.91	(0.94)	610	3.07	(2.06)	194	0.04	(1.63)	197	-0.17	(1.53)	219
40	Sandburg Elementary	-2.35	(1.29)	264	-4.51	(2.79)	92	-1.56	(1.99)	93	-0.05	(2.14)	79
300	Schenk Elementary	-1.41	(1.23)	301	2.77	(2.78)	92	-3.87	(1.93)	106	-0.28	(1.99)	103
735	Shorewood Hills Elementary	5.13	(1.25)	304	14.23	(2.84)	90	1.12	(1.95)	105	1.12	(1.97)	109
270	Stephens Elementary	-0.28	(1.09)	419	0.70	(2.33)	146	0.08	(1.79)	145	-1.51	(1.86)	128
780	Thoreau Elementary	-0.34	(1.20)	331	1.49	(2.56)	115	-1.44	(1.96)	99	-0.31	(1.91)	117
795	Van Hise Elementary	0.65	(1.30)	268	-2.57	(2.78)	94	1.63	(2.01)	90	1.51	(2.11)	84

Table E2, Part 2: Elementary School Reading Value Added by Grade, Nov. 2006 - Nov. 2008

Code	School	Overall			Grade 3 to Grade 4			Grade 4 to Grade 5			Grade 5 to Grade 6		
		VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N
225	Allis Elementary	-4.19	(1.18)	407	-8.35	(2.46)	123	-2.70	(1.85)	146	-0.46	(1.89)	138
110	Cesar Chavez Elementary	-0.75	(1.10)	492	0.04	(2.09)	181	0.59	(1.78)	164	-2.64	(1.84)	147
105	Crestwood Elementary	-1.23	(1.30)	331	-4.19	(2.47)	122	1.83	(2.00)	111	-1.49	(2.08)	98
165	Elvehjem Elementary	3.44	(1.26)	348	6.42	(2.55)	112	2.73	(1.95)	122	-0.37	(2.00)	114
180	Emerson Elementary	0.29	(1.44)	254	-3.69	(2.84)	83	1.41	(2.10)	89	1.44	(2.17)	82
210	Falk Elementary	-1.54	(1.40)	265	2.31	(2.78)	88	-2.29	(2.11)	88	-2.24	(2.13)	89
255	Glendale Elementary	1.82	(1.39)	289	3.77	(2.64)	103	3.04	(2.13)	85	-2.16	(2.06)	101
675	Gompers Elementary	1.40	(1.42)	250	0.15	(2.93)	76	-0.52	(2.09)	92	3.11	(2.19)	82
48	Hawthorne Elementary	-1.87	(1.39)	282	-0.76	(2.63)	103	-0.20	(2.09)	92	-3.22	(2.14)	87
660	Huegel Elementary	-0.94	(1.20)	396	-1.23	(2.39)	131	0.92	(1.88)	138	-2.29	(1.93)	127
375	Kennedy Elementary	-0.53	(1.12)	466	2.72	(2.26)	151	-4.13	(1.83)	151	0.92	(1.81)	164
435	Lake View Elementary	-0.97	(1.51)	221	-4.98	(2.93)	76	0.09	(2.20)	72	1.34	(2.23)	73
475	Leopold Elementary	-1.13	(1.06)	533	-3.98	(2.15)	168	1.19	(1.73)	178	-0.94	(1.70)	187
15	Lincoln Elementary	2.56	(1.03)	576	4.90	(1.97)	205	3.13	(1.69)	192	-1.51	(1.72)	179
65	Lindbergh Elementary	0.19	(1.50)	228	2.08	(3.00)	72	-1.74	(2.20)	73	0.77	(2.17)	83
495	Lowell Elementary	-5.75	(1.56)	200	-8.09	(2.97)	73	-2.88	(2.25)	64	-2.15	(2.31)	63
525	Marquette Elementary	0.83	(1.21)	398	-0.19	(2.46)	123	0.46	(1.94)	125	1.28	(1.85)	150
555	Mendota Elementary	-0.30	(1.58)	201	-3.76	(2.86)	81	-0.36	(2.21)	70	2.83	(2.40)	50
390	Muir Elementary	1.19	(1.22)	376	4.47	(2.49)	120	1.49	(1.91)	131	-2.35	(1.95)	125
125	Nuestro Mundo Community	3.68	(2.40)	40	8.25	(3.59)	40						
615	Orchard Ridge Elementary	-0.92	(1.44)	243	0.10	(2.95)	75	0.05	(2.13)	84	-1.95	(2.16)	84
645	Randall Elementary	3.88	(1.01)	606	5.80	(2.04)	193	-0.78	(1.69)	195	5.17	(1.63)	218
40	Sandburg Elementary	-1.14	(1.41)	262	-1.45	(2.74)	92	-0.12	(2.09)	92	-1.24	(2.19)	78
300	Schenk Elementary	-1.57	(1.34)	302	-2.41	(2.72)	93	-0.87	(2.02)	106	-0.73	(2.05)	103
735	Shorewood Hills Elementary	4.66	(1.37)	292	8.73	(2.85)	84	2.98	(2.06)	100	0.58	(2.05)	108
270	Stephens Elementary	-2.03	(1.18)	413	-3.69	(2.31)	144	-4.55	(1.86)	144	3.48	(1.95)	125
780	Thoreau Elementary	0.69	(1.29)	331	-1.50	(2.52)	115	-0.10	(2.05)	99	2.52	(1.98)	117
795	Van Hise Elementary	-2.37	(1.41)	267	-5.45	(2.73)	94	0.24	(2.11)	89	-1.21	(2.17)	84

Table E2, Part 3: Elementary School Math Value Added by Grade, Nov. 2005 - Nov. 2007

Code	School	Overall			Grade 3 to Grade 4			Grade 4 to Grade 5			Grade 5 to Grade 6		
		VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N
225	Allis Elementary	-2.92	(1.11)	387	-6.34	(2.21)	139	-1.89	(2.03)	133	0.20	(2.09)	115
110	Cesar Chavez Elementary	-0.40	(1.01)	472	-0.90	(2.04)	170	-1.47	(1.84)	169	1.50	(1.97)	133
105	Crestwood Elementary	-1.97	(1.17)	336	-1.35	(2.36)	120	-3.54	(2.19)	110	-0.64	(2.15)	106
165	Elvehjem Elementary	3.01	(1.12)	379	5.67	(2.32)	126	2.04	(2.11)	120	0.90	(1.99)	133
180	Emerson Elementary	-1.22	(1.37)	227	-4.11	(2.76)	77	0.07	(2.45)	76	0.54	(2.42)	74
210	Falk Elementary	-2.17	(1.27)	278	-6.32	(2.56)	95	-0.65	(2.32)	89	0.74	(2.23)	94
255	Glendale Elementary	-0.09	(1.28)	272	1.82	(2.70)	82	6.92	(2.30)	91	-8.18	(2.21)	99
675	Gompers Elementary	-0.73	(1.31)	250	-2.70	(2.62)	90	4.03	(2.37)	88	-3.77	(2.45)	72
48	Hawthorne Elementary	-1.86	(1.31)	260	-1.74	(2.54)	98	2.15	(2.45)	77	-5.39	(2.31)	85
660	Huegel Elementary	-1.44	(1.10)	385	0.73	(2.22)	138	-5.21	(2.04)	132	0.57	(2.08)	115
375	Kennedy Elementary	-0.63	(1.03)	464	0.80	(2.12)	156	-3.00	(1.90)	160	0.51	(1.92)	148
435	Lake View Elementary	-1.62	(1.39)	216	1.81	(2.76)	77	-2.13	(2.50)	74	-4.24	(2.53)	65
475	Leopold Elementary	-0.29	(0.95)	560	-4.41	(2.02)	173	-1.77	(1.78)	181	4.48	(1.66)	206
15	Lincoln Elementary	4.89	(0.97)	553	4.95	(1.97)	185	5.93	(1.79)	181	3.29	(1.72)	187
65	Lindbergh Elementary	-1.07	(1.40)	208	0.72	(2.91)	65	-5.48	(2.50)	73	2.04	(2.48)	70
495	Lowell Elementary	-1.31	(1.41)	204	-8.10	(2.90)	65	4.84	(2.50)	72	-1.11	(2.49)	67
525	Marquette Elementary	3.03	(1.05)	428	-0.81	(2.32)	124	3.69	(1.93)	150	4.97	(1.89)	154
555	Mendota Elementary	-1.86	(1.47)	193	-2.78	(2.73)	80	0.20	(2.67)	59	-2.54	(2.64)	54
390	Muir Elementary	-1.00	(1.15)	349	-3.92	(2.30)	127	-1.03	(2.11)	123	2.57	(2.21)	99
615	Orchard Ridge Elementary	-0.66	(1.31)	247	2.27	(2.61)	90	-2.33	(2.42)	81	-1.91	(2.39)	76
645	Randall Elementary	0.84	(0.90)	627	6.88	(1.93)	193	-0.09	(1.68)	214	-3.63	(1.62)	220
40	Sandburg Elementary	-1.77	(1.31)	258	2.55	(2.62)	90	-4.24	(2.44)	79	-3.31	(2.28)	89
300	Schenk Elementary	-0.43	(1.23)	299	0.19	(2.50)	102	-5.37	(2.23)	102	4.11	(2.24)	95
735	Shorewood Hills Elementary	4.91	(1.20)	330	7.25	(2.46)	108	3.72	(2.21)	109	3.05	(2.12)	113
270	Stephens Elementary	0.19	(1.09)	410	0.96	(2.17)	149	2.08	(2.04)	133	-2.63	(2.01)	128
780	Thoreau Elementary	0.43	(1.17)	335	1.97	(2.52)	99	0.92	(2.12)	114	-1.39	(2.04)	122
795	Van Hise Elementary	-2.69	(1.32)	244	-5.76	(2.74)	79	0.43	(2.43)	82	-2.30	(2.34)	83

Table E2, Part 4: Elementary School Reading Value Added by Grade, Nov. 2005 - Nov. 2007

Code	School	Overall			Grade 3 to Grade 4			Grade 4 to Grade 5			Grade 5 to Grade 6		
		VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N
225	Allis Elementary	-3.09	(1.16)	386	-4.00	(1.98)	139	-2.31	(1.71)	133	-0.14	(2.05)	114
110	Cesar Chavez Elementary	-1.81	(1.07)	459	-0.92	(1.88)	165	-0.37	(1.61)	163	-3.37	(1.96)	131
105	Crestwood Elementary	0.94	(1.22)	333	0.45	(2.09)	119	1.94	(1.79)	109	-0.98	(2.10)	105
165	Elvehjem Elementary	1.34	(1.17)	378	1.25	(2.05)	126	0.88	(1.75)	120	0.64	(1.96)	132
180	Emerson Elementary	-3.43	(1.42)	226	-3.35	(2.33)	77	-0.55	(1.93)	75	-3.30	(2.31)	74
210	Falk Elementary	-1.38	(1.32)	278	-0.66	(2.21)	95	-0.48	(1.86)	89	-1.94	(2.16)	94
255	Glendale Elementary	0.84	(1.35)	265	-1.50	(2.31)	80	3.16	(1.86)	89	-0.84	(2.16)	96
675	Gompers Elementary	-1.15	(1.35)	250	-1.16	(2.25)	90	-0.48	(1.88)	88	-0.77	(2.33)	72
48	Hawthorne Elementary	-1.18	(1.36)	259	-0.47	(2.20)	98	0.49	(1.93)	76	-2.93	(2.23)	85
660	Huegel Elementary	-1.55	(1.15)	383	-1.45	(1.99)	138	1.00	(1.71)	131	-3.72	(2.05)	114
375	Kennedy Elementary	-2.50	(1.07)	464	0.46	(1.92)	154	-3.75	(1.63)	161	-2.01	(1.90)	149
435	Lake View Elementary	-1.13	(1.45)	213	0.53	(2.34)	76	-0.92	(1.95)	73	-1.95	(2.40)	64
475	Leopold Elementary	0.20	(0.99)	551	-3.88	(1.85)	171	1.59	(1.57)	176	2.20	(1.68)	204
15	Lincoln Elementary	4.71	(1.01)	550	4.26	(1.80)	185	3.45	(1.57)	179	3.23	(1.74)	186
65	Lindbergh Elementary	-1.71	(1.45)	208	0.77	(2.42)	65	-1.25	(1.94)	73	-2.81	(2.35)	70
495	Lowell Elementary	-1.66	(1.46)	203	-2.15	(2.42)	65	0.60	(1.94)	72	-2.29	(2.37)	66
525	Marquette Elementary	1.45	(1.10)	424	2.12	(2.07)	122	0.35	(1.65)	150	0.82	(1.89)	152
555	Mendota Elementary	0.49	(1.52)	191	-0.48	(2.32)	79	-1.31	(2.01)	59	3.57	(2.48)	53
390	Muir Elementary	3.19	(1.19)	347	1.59	(2.05)	126	0.52	(1.75)	122	5.29	(2.14)	99
615	Orchard Ridge Elementary	-1.02	(1.36)	245	-1.60	(2.25)	89	-1.10	(1.91)	81	0.94	(2.30)	75
645	Randall Elementary	3.32	(0.94)	626	6.17	(1.78)	192	-1.39	(1.49)	214	3.89	(1.64)	220
40	Sandburg Elementary	-0.53	(1.36)	257	1.02	(2.25)	90	-0.17	(1.92)	78	-2.19	(2.20)	89
300	Schenk Elementary	-1.88	(1.28)	298	-2.89	(2.17)	103	0.00	(1.82)	100	-1.32	(2.17)	95
735	Shorewood Hills Elementary	2.99	(1.26)	323	2.45	(2.18)	102	2.54	(1.80)	109	0.93	(2.07)	112
270	Stephens Elementary	-1.89	(1.14)	408	-1.50	(1.95)	148	-2.31	(1.71)	132	-0.14	(1.98)	128
780	Thoreau Elementary	-0.49	(1.21)	336	-1.89	(2.19)	99	-0.29	(1.76)	114	0.92	(2.00)	123
795	Van Hise Elementary	-1.05	(1.37)	243	0.56	(2.33)	79	-0.35	(1.91)	81	-2.52	(2.24)	83

Table M2: Value Added By Grade

Table M2 presents value added at the grade level. Like the case of school-level value added, these reflect overlapping two-year growth periods, either from November 2005 to November 2007, or November 2006 to November 2008.

The first three columns of Table M2, under the header **Overall**, are the same school-level value-added measures presented in Table M1. **VA** is the value added of the school, and is equal to the number of extra points students at that school scored on the WKCE relative to observationally similar students at other schools. **Std. Err.** is the standard error of value added, and **N** is the number of students used to measure value added.

In the parts of Table M2 that list elementary school value added, the next three columns, under the header **Grade 6 to Grad e 7**, present value added at each school for students who progressed from grade 6 to grade 7. It is equal to the number of extra points students progressing from grade 6 to grade 7 at that school scored on the WKCE relative to observationally similar students making the same grade progression at other schools. Its average across schools is zero. **Std. Err.** is the standard error of this value added measure. **N** is the number of students used to measure value added.

The value added measures under the header **Grade 7 to Grade 8** are analogous to those under the Grade 6 to Grade 7 header. In all these cases, grade-level value added measures a school's value added specifically for those students making a specific grade progression.

Table M2, Part 1: Middle School Math Value Added by Grade, Nov. 2006 - Nov. 2008

Code	School	Overall			Grade 6 to Grade 7			Grade 7 to Grade 8		
		VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N
690	Black Hawk Middle	0.24	(0.75)	429	0.45	(1.49)	215	0.22	(1.36)	214
90	Cherokee Heights Middle	0.25	(0.67)	658	-1.47	(1.21)	346	1.75	(1.21)	312
810	Hamilton Middle	-0.01	(0.63)	922	0.41	(1.10)	453	-0.40	(1.06)	469
440	James Wright Middle	-0.05	(0.79)	322	2.02	(1.64)	165	-1.54	(1.47)	157
370	Jefferson Middle	-0.77	(0.73)	498	-0.55	(1.41)	250	-1.62	(1.31)	248
540	O'Keefe Middle	0.86	(0.72)	507	4.48	(1.36)	268	-1.34	(1.32)	239
665	Sennett Middle	-1.31	(0.65)	750	-4.26	(1.18)	377	0.18	(1.14)	373
710	Sherman Middle	0.10	(0.72)	519	-1.61	(1.43)	238	1.21	(1.25)	281
850	Spring Harbor Middle	1.17	(0.78)	340	3.38	(1.61)	168	0.74	(1.44)	172
620	Toki Middle	0.00	(0.66)	707	2.50	(1.20)	354	-2.01	(1.16)	353
315	Whitehorse Middle	0.43	(0.71)	556	-2.24	(1.35)	281	2.67	(1.27)	275

Table M2, Part 2: Middle School Reading Value Added by Grade, Nov. 2006 - Nov. 2008

Code	School	Overall			Grade 6 to Grade 7			Grade 7 to Grade 8		
		VA	Std. Err.	N	VA	Std. Err.	N	VA	Std. Err.	N
690	Black Hawk Middle	1.21	(1.00)	427	0.90	(0.94)	215	0.18	(1.89)	212
90	Cherokee Heights Middle	-0.99	(0.86)	658	0.17	(0.87)	345	-2.95	(1.60)	313
810	Hamilton Middle	2.21	(0.79)	916	-0.65	(0.84)	449	6.65	(1.35)	467
440	James Wright Middle	0.20	(1.10)	309	-0.77	(0.97)	159	3.74	(2.16)	150
370	Jefferson Middle	0.37	(0.96)	497	0.38	(0.92)	249	-0.21	(1.78)	248
540	O'Keefe Middle	-1.75	(0.94)	506	-0.55	(0.91)	268	-2.87	(1.79)	238
665	Sennett Middle	-1.25	(0.83)	744	-0.31	(0.87)	372	-2.22	(1.47)	372
710	Sherman Middle	0.69	(0.95)	517	0.60	(0.93)	238	0.05	(1.68)	279
850	Spring Harbor Middle	0.63	(1.05)	338	-0.07	(0.96)	167	1.99	(2.05)	171
620	Toki Middle	-1.19	(0.84)	703	0.55	(0.87)	350	-4.26	(1.51)	353
315	Whitehorse Middle	-0.09	(0.92)	556	0.02	(0.91)	281	-0.25	(1.70)	275

Table M2, Part 3: Middle School Math Value Added by Grade, Nov. 2005 - Nov. 2007

Code	School	Overall VA	Overall Std. Err.	Overall N	Grade 6 to Grade 7 VA	Grade 6 to Grade 7 Std. Err.	Grade 6 to Grade 7 N	Grade 7 to Grade 8 VA	Grade 7 to Grade 8 Std. Err.	Grade 7 to Grade 8 N
690	Black Hawk Middle	-0.92	(0.81)	439	-1.80	(1.46)	212	-0.73	(1.36)	227
90	Cherokee Heights Middle	1.35	(0.76)	552	-2.76	(1.30)	273	5.14	(1.27)	279
810	Hamilton Middle	0.00	(0.65)	872	0.43	(1.06)	453	-0.45	(1.10)	419
440	James Wright Middle	0.59	(0.89)	295	1.38	(1.65)	151	0.26	(1.57)	144
370	Jefferson Middle	-0.36	(0.77)	528	-0.82	(1.36)	254	-0.20	(1.28)	274
540	O'Keefe Middle	1.51	(0.80)	460	5.95	(1.43)	223	-1.31	(1.35)	237
665	Sennett Middle	-0.24	(0.69)	704	-0.08	(1.16)	358	-0.50	(1.17)	346
710	Sherman Middle	-0.61	(0.73)	588	-2.66	(1.27)	286	0.75	(1.23)	302
850	Spring Harbor Middle	1.30	(0.86)	322	5.26	(1.59)	163	-1.09	(1.52)	159
620	Toki Middle	-1.30	(0.68)	716	-1.43	(1.17)	348	-1.65	(1.14)	368
315	Whitehorse Middle	0.04	(0.77)	503	0.17	(1.35)	260	-0.12	(1.34)	243

Table M2, Part 4: Middle School Reading Value Added by Grade, Nov. 2005 - Nov. 2007

Code	School	Overall VA	Overall Std. Err.	Overall N	Grade 6 to Grade 7 VA	Grade 6 to Grade 7 Std. Err.	Grade 6 to Grade 7 N	Grade 7 to Grade 8 VA	Grade 7 to Grade 8 Std. Err.	Grade 7 to Grade 8 N
690	Black Hawk Middle	-1.14	(0.85)	443	-0.64	(1.44)	213	-3.03	(1.78)	230
90	Cherokee Heights Middle	-0.69	(0.80)	568	1.84	(1.32)	283	-4.65	(1.63)	285
810	Hamilton Middle	0.50	(0.71)	872	-3.15	(1.13)	454	5.69	(1.38)	418
440	James Wright Middle	1.10	(0.92)	294	-1.39	(1.58)	146	6.60	(2.15)	148
370	Jefferson Middle	-0.75	(0.81)	534	0.20	(1.37)	255	-2.65	(1.64)	279
540	O'Keefe Middle	0.60	(0.84)	460	2.88	(1.43)	223	-1.81	(1.77)	237
665	Sennett Middle	0.92	(0.74)	713	1.12	(1.21)	363	1.39	(1.47)	350
710	Sherman Middle	-0.23	(0.78)	594	-1.37	(1.30)	290	1.05	(1.57)	304
850	Spring Harbor Middle	0.94	(0.90)	321	1.05	(1.53)	162	2.08	(2.08)	159
620	Toki Middle	-0.93	(0.74)	713	0.74	(1.23)	345	-3.55	(1.44)	368
315	Whitehorse Middle	0.19	(0.82)	503	0.47	(1.37)	260	0.01	(1.75)	243

Table 3: Value-Added Coefficients

Table 3 presents the coefficients used to make adjustments for pretest scores and student characteristics when measuring value added in Madison. These coefficients come from a statistical analysis that compares students in the same schools with each other. The result is a district-wide measure of intra-school differences across students of different demographic groups, controlling for all other measurable characteristics.

The pretest score coefficients measure the relationship between test scores from one year to the next from one grade to the next. For example, the coefficient on 2006 third-grade pretest score is 0.85 in the math coefficients table for 2006-2008. This implies that third-graders who scored one point higher on the 2006 math WKCE scored on average 0.85 points higher on the 2007 math WKCE as fourth graders. Similarly, the coefficient in the math coefficients table on 2007 seventh-grade pretest score is 0.89. This implies that seventh-graders who scored one point higher on the 2007 math WKCE scored on average 0.89 points higher on the 2008 math WKCE as eighth graders. These coefficients are important for properly measuring improvement on the WKCE from one test to the next. In particular, they adjust for the possibility of it being easier or more difficult to gain points on the WKCE from one year to the next from a higher or lower initial score.

The coefficients on student characteristics measure the statistical relationship between test score improvement and student characteristics. Often, these are relative to an omitted student characteristic. For example, the race characteristics are listed as Asian, black, hispanic, Native American, and biracial, with white as the omitted. The coefficient on black for grades 3, 4, and 5 in the math tables for 2006-2008 is -4.07. This implies that black elementary school students gained about four fewer points on the math WKCE from one year to the next than observationally similar white students, with the similarities based on pretest scores, the other student characteristics listed in the table, and schools attended.

It is important to note that these coefficients do not measure gaps in growth across different groups in their entirety. They only present intra-school gaps, controlling for differences across the other student characteristics. For example, the black-white gap mentioned above does not include the effects of differences between black students and white students in pretest scores, special education status, low-income status, parents' education, or other student characteristics listed in the table. These effects are controlled for and taken out of the gap. They also do not include differences in the quality of schools attended by black students and white students. For these reasons, these coefficients are often called partial coefficients, in the sense that they are the part of differences between students of different groups that cannot be explained with differences across the groups in other measurable variables.

Table 3, Part 1: Math Value Added Coefficients, 2006-2008

Pretest Grade	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
Pretest score (if 2006)	0.85	0.92	0.93	0.84	0.98
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Pretest score (if 2007)	0.81	0.89	0.83	0.82	0.89
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Female		0.43		-0.74	
		(0.52)		(0.63)	
Southeast Asian		0.87		-1.20	
		(1.72)		(2.01)	
Other Asian		3.64		5.93	
		(1.26)		(1.54)	
Black		-4.07		-4.61	
		(0.91)		(1.06)	
Hispanic		-2.06		-2.85	
		(1.27)		(1.57)	
Native		0.92		0.44	
		(4.11)		(5.10)	
Biracial		-2.66		-0.84	
		(1.00)		(1.22)	
Disability (L.D.)		-14.22		-9.17	
		(1.40)		(1.36)	
Disability (Speech)		-3.13		-4.64	
		(1.21)		(1.80)	
Disability (Other)		-12.33		-7.84	
		(1.13)		(1.24)	
ELL (Beg./Int.)		-3.69		-1.91	
		(1.20)		(1.49)	
ELL (Advanced)		2.00		4.70	
		(1.84)		(2.01)	
Free lunch		-1.90		-3.18	
		(0.84)		(1.00)	
Reduced-price lunch		0.25		-2.45	
		(1.21)		(1.41)	
Free or r.-p. lunch		-0.90		0.87	
		(2.56)		(2.63)	
Parents College Grad		2.39		2.77	
		(1.00)		(1.18)	
Parents Grad Degree		4.49		4.85	
		(1.02)		(1.21)	
Parents No H.S.		-0.04		1.62	
		(1.15)		(1.39)	
Parents Voc. Ed.		1.52		0.99	
		(0.91)		(1.10)	
Parents Ed Unk.		3.84		1.24	
		(1.01)		(1.31)	

Table 3, Part 2: Math Value Added Coefficients, 2005-2007

Pretest Grade	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
Pretest score (if 2005)	0.70	0.83	0.87	0.82	0.86
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Pretest score (if 2006)	0.84	0.90	0.92	0.84	0.98
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Female		-0.17		-1.88	
		(0.51)		(0.59)	
Southeast Asian		0.39		1.18	
		(1.75)		(1.92)	
Other Asian		4.50		4.86	
		(1.22)		(1.54)	
Black		-5.36		-5.06	
		(0.89)		(0.97)	
Hispanic		-1.61		-1.83	
		(1.27)		(1.56)	
Native		-5.57		-3.30	
		(4.57)		(4.87)	
Biracial		-3.21		-0.96	
		(0.98)		(1.13)	
Disability (L.D.)		-14.81		-7.50	
		(1.38)		(1.22)	
Disability (Speech)		-2.66		-6.52	
		(1.19)		(1.72)	
Disability (Other)		-12.00		-9.12	
		(1.09)		(1.15)	
ELL (Beg./Int.)		-4.63		-3.42	
		(1.33)		(1.61)	
ELL (Advanced)		-0.43		1.65	
		(1.45)		(1.70)	
Free lunch		-2.12		-2.06	
		(0.83)		(0.96)	
Reduced-price lunch		-0.68		-1.09	
		(1.22)		(1.35)	
Free or r.-p. lunch		-0.17		-0.03	
		(2.24)		(2.34)	
Parents College Grad		3.29		4.30	
		(0.96)		(1.10)	
Parents Grad Degree		5.73		5.32	
		(0.98)		(1.10)	
Parents No H.S.		-0.72		3.04	
		(1.15)		(1.36)	
Parents Voc. Ed.		0.64		1.66	
		(0.90)		(1.00)	
Parents Ed Unk.		3.59		2.49	
		(1.07)		(1.29)	

Table 3, Part 3: Reading Value Added Coefficients, 2006-08

Pretest Grade	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
Pretest score (if 2006)	0.99	0.91	0.82	0.86	0.96
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Pretest score (if 2007)	1.01	0.92	0.89	0.92	0.87
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Female		0.95		1.20	
		(0.56)		(0.70)	
Southeast Asian		-2.20		-1.00	
		(1.85)		(2.24)	
Other Asian		-0.62		3.15	
		(1.35)		(1.71)	
Black		-7.34		-4.95	
		(0.97)		(1.19)	
Hispanic		-2.12		-2.48	
		(1.37)		(1.75)	
Native		2.60		-12.93	
		(4.35)		(5.63)	
Biracial		-4.74		-0.51	
		(1.07)		(1.36)	
Disability (L.D.)		-10.65		-6.18	
		(1.53)		(1.51)	
Disability (Speech)		-5.89		-1.73	
		(1.29)		(1.99)	
Disability (Other)		-7.80		-5.59	
		(1.21)		(1.40)	
ELL (Beg./Int.)		-1.11		-0.04	
		(1.30)		(1.68)	
ELL (Advanced)		1.42		0.21	
		(1.95)		(2.24)	
Free lunch		-2.88		-0.78	
		(0.89)		(1.12)	
Reduced-price lunch		-0.43		-0.43	
		(1.28)		(1.57)	
Free or r.-p. lunch		-1.86		-4.27	
		(2.69)		(3.06)	
Parents College Grad		4.16		2.25	
		(1.06)		(1.31)	
Parents Grad Degree		6.47		5.39	
		(1.09)		(1.35)	
Parents No H.S.		0.96		0.64	
		(1.24)		(1.55)	
Parents Voc. Ed.		1.96		2.09	
		(0.97)		(1.22)	
Parents Ed Unk.		4.55		4.83	
		(1.08)		(1.46)	

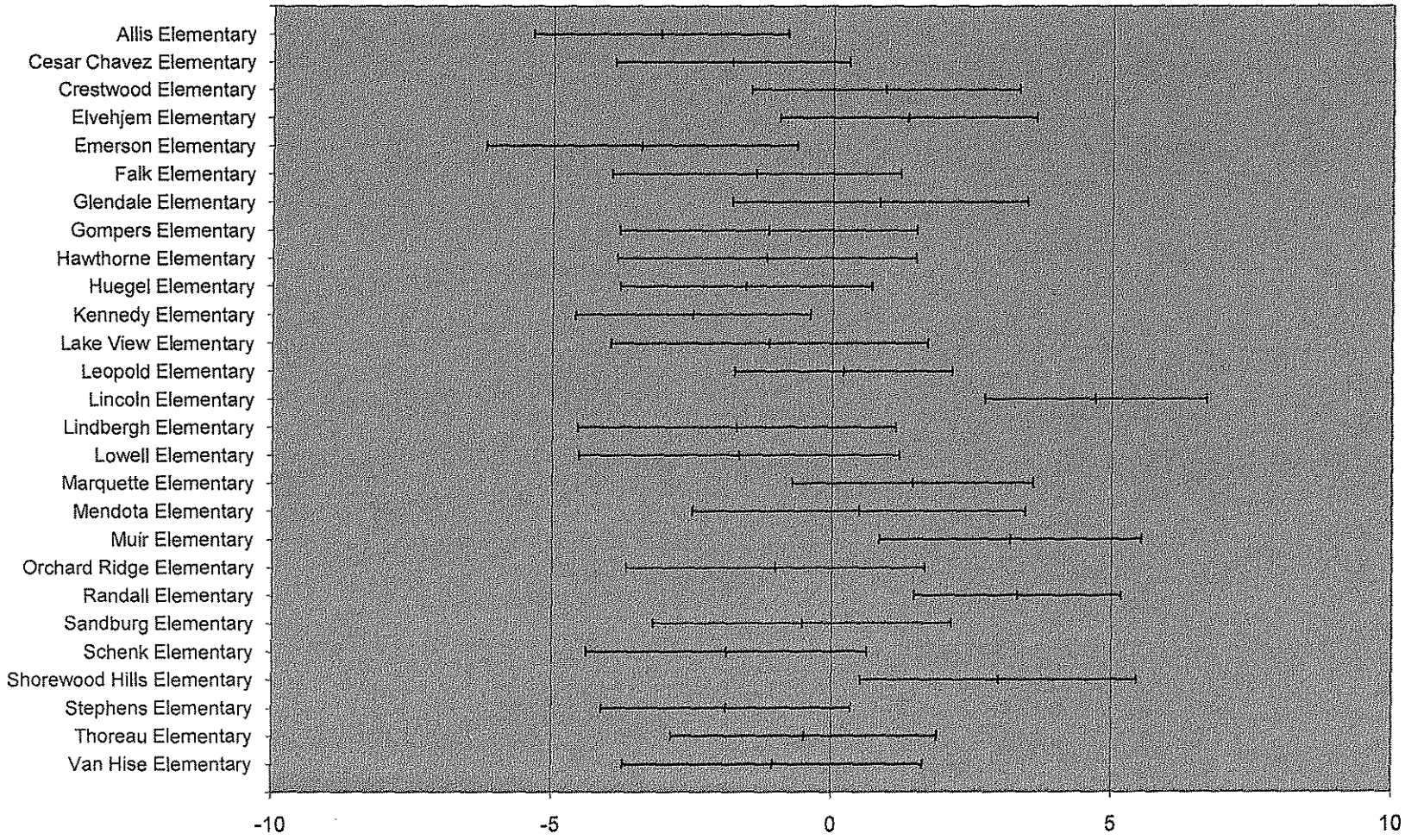
Table 3, Part 4: Reading Value Added Coefficients, 2005-07

Pretest Grade	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
Pretest score (if 2005)	0.94	0.89	0.84	0.83	1.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Pretest score (if 2006)	0.97	0.90	0.80	0.84	0.95
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Female		1.39		-0.12	
		(0.54)		(0.68)	
Southeast Asian		-4.77		-1.57	
		(1.86)		(2.17)	
Other Asian		-0.67		3.20	
		(1.29)		(1.79)	
Black		-7.95		-3.74	
		(0.94)		(1.12)	
Hispanic		0.39		-1.30	
		(1.35)		(1.79)	
Native		-4.90		-6.09	
		(4.82)		(5.64)	
Biracial		-2.31		-1.50	
		(1.04)		(1.31)	
Disability (L.D.)		-11.12		-10.32	
		(1.50)		(1.38)	
Disability (Speech)		-6.33		-3.81	
		(1.25)		(1.97)	
Disability (Other)		-11.69		-8.61	
		(1.17)		(1.32)	
ELL (Beg./Int.)		-2.06		-1.41	
		(1.42)		(1.82)	
ELL (Advanced)		-1.16		2.87	
		(1.53)		(1.96)	
Free lunch		-4.25		-2.64	
		(0.87)		(1.11)	
Reduced-price lunch		-1.14		-0.72	
		(1.28)		(1.56)	
Free or r.-p. lunch		-3.79		-3.97	
		(2.35)		(2.72)	
Parents College Grad		6.34		1.74	
		(1.02)		(1.26)	
Parents Grad Degree		7.05		4.04	
		(1.04)		(1.26)	
Parents No H.S.		0.22		0.18	
		(1.23)		(1.54)	
Parents Voc. Ed.		2.81		0.28	
		(0.95)		(1.14)	
Parents Ed Unk.		6.24		3.16	
		(1.14)		(1.49)	

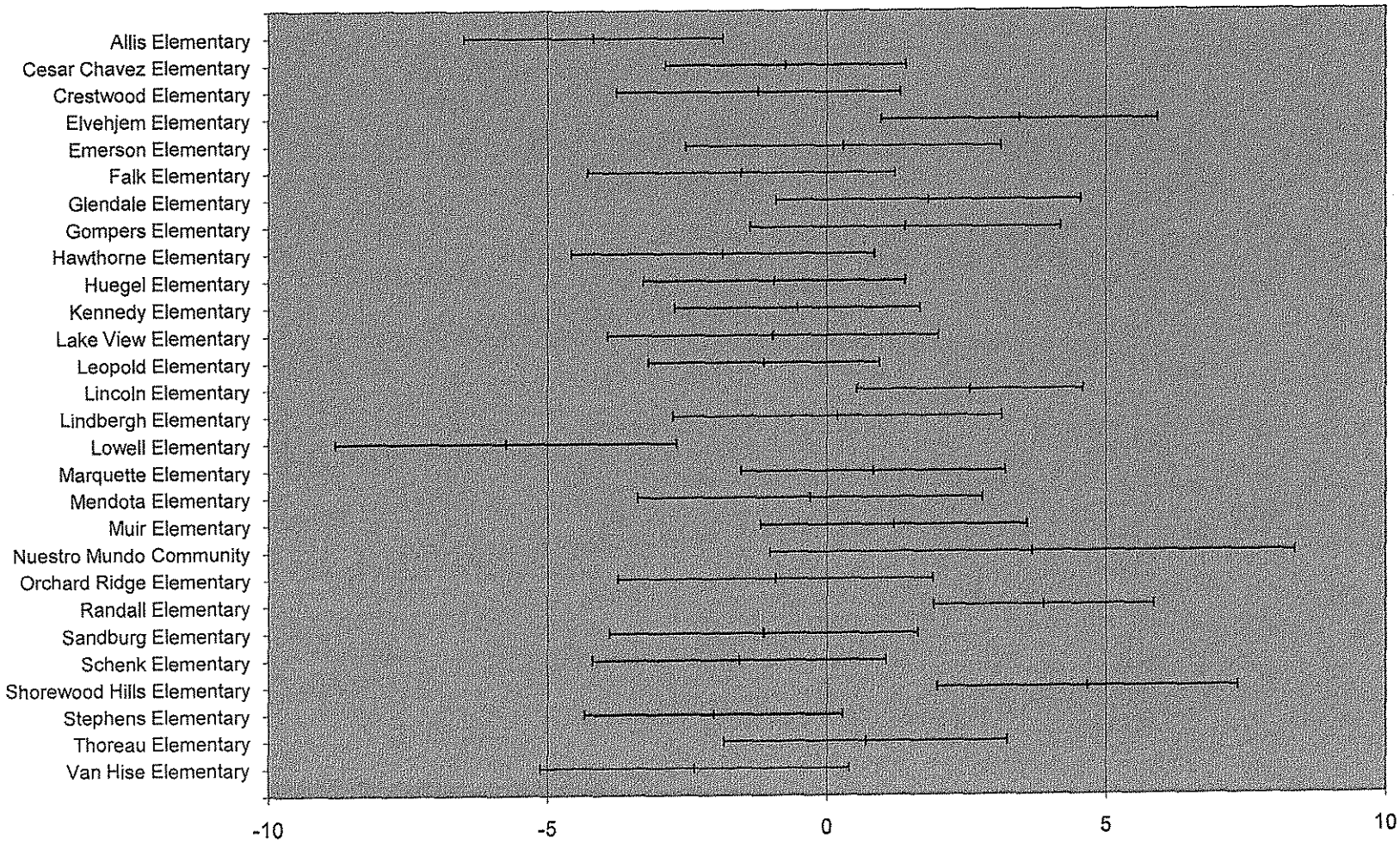
Value Added Charts

To get a better idea of what the value-added measures mean in Madison, the data from Tables E1 and M1 of this document are presented as charts. The charts plot measured school-level value added with 95 percent confidence intervals. The confidence intervals stretch out 1.96 standard errors in either direction from measured value added.

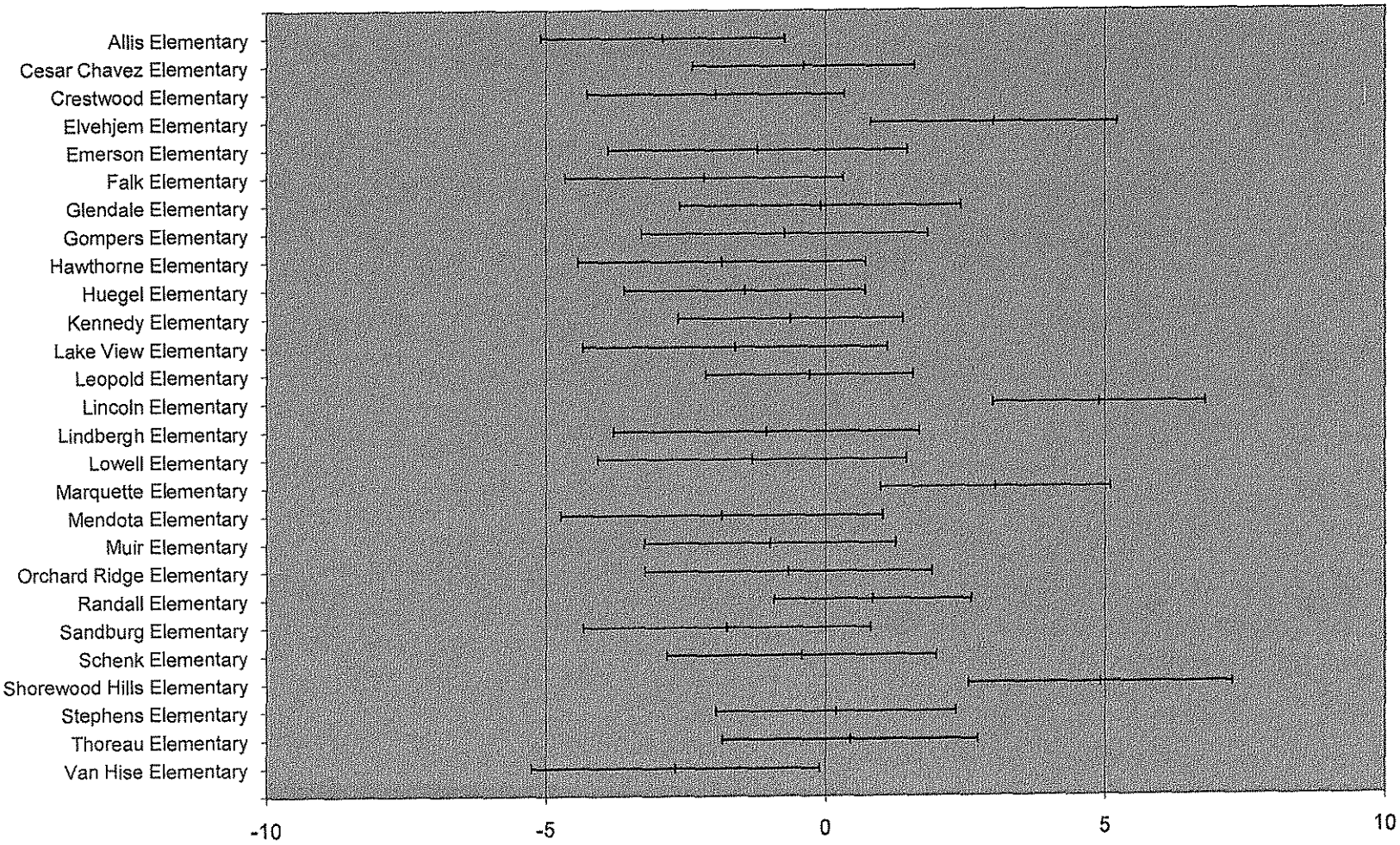
Reading Value Added, Elementary, 2005-2007



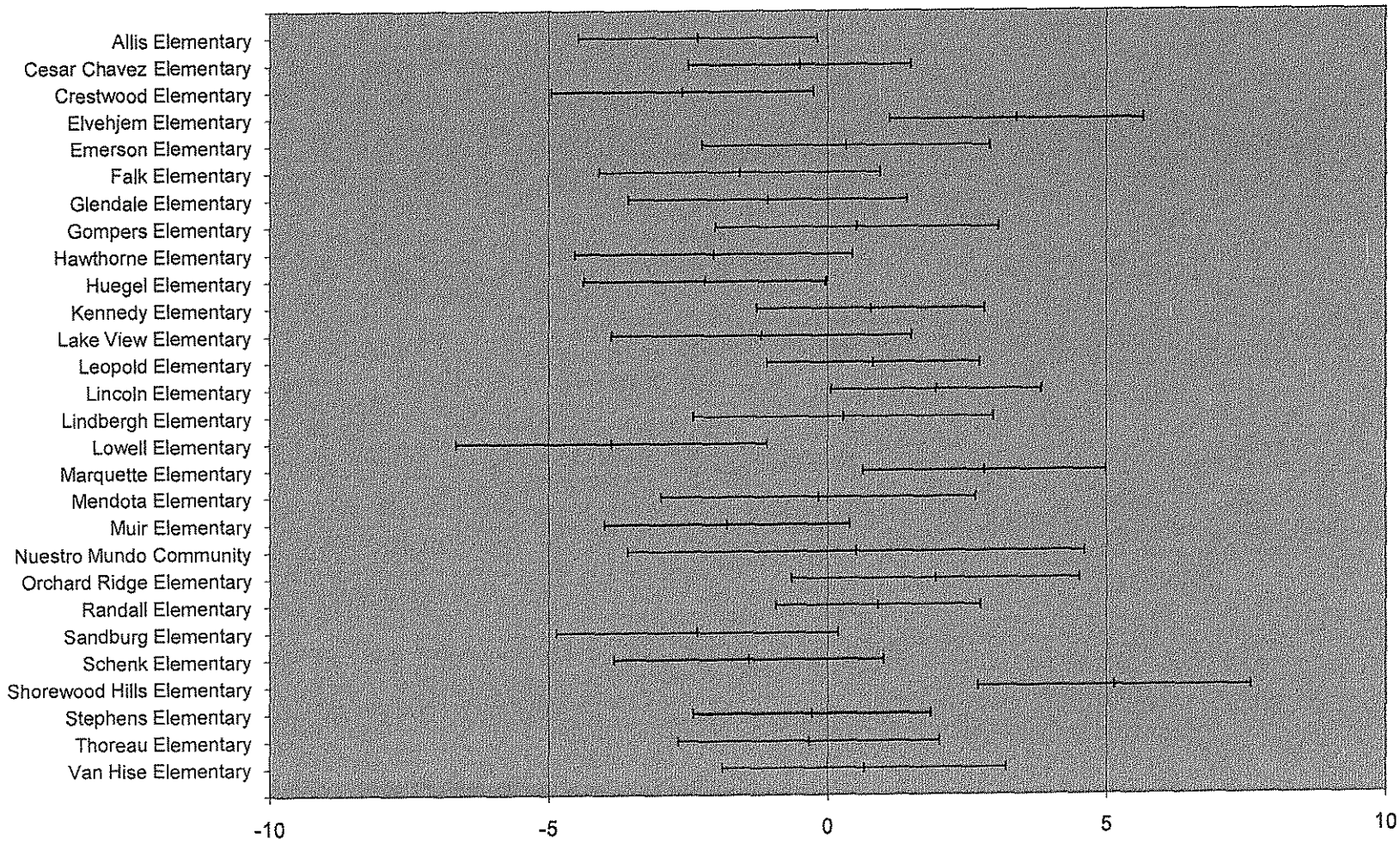
Reading Value Added, Elementary, 2006-2008



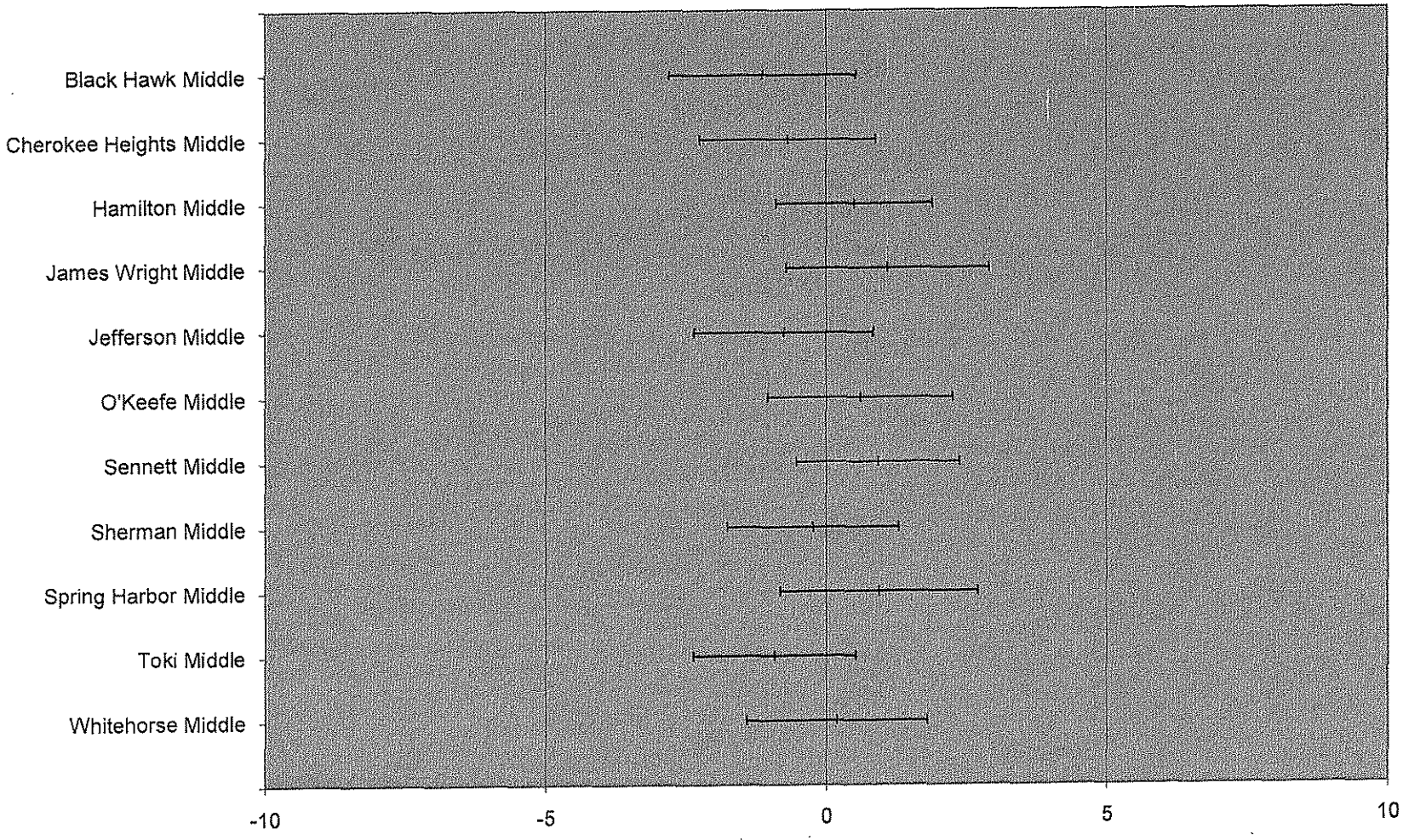
Math Value Added, Elementary, 2005-2007



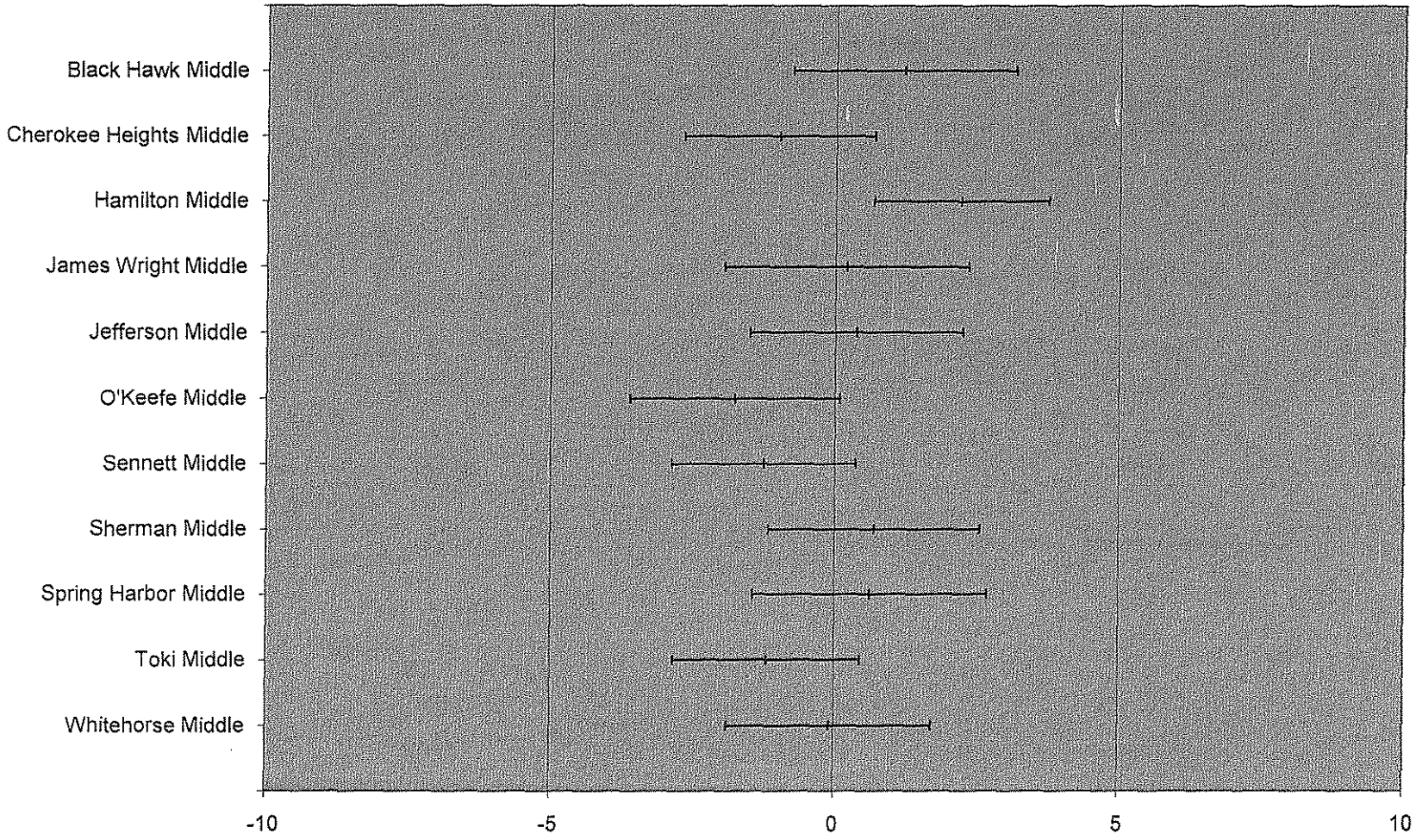
Math Value Added, Elementary, 2006-2008



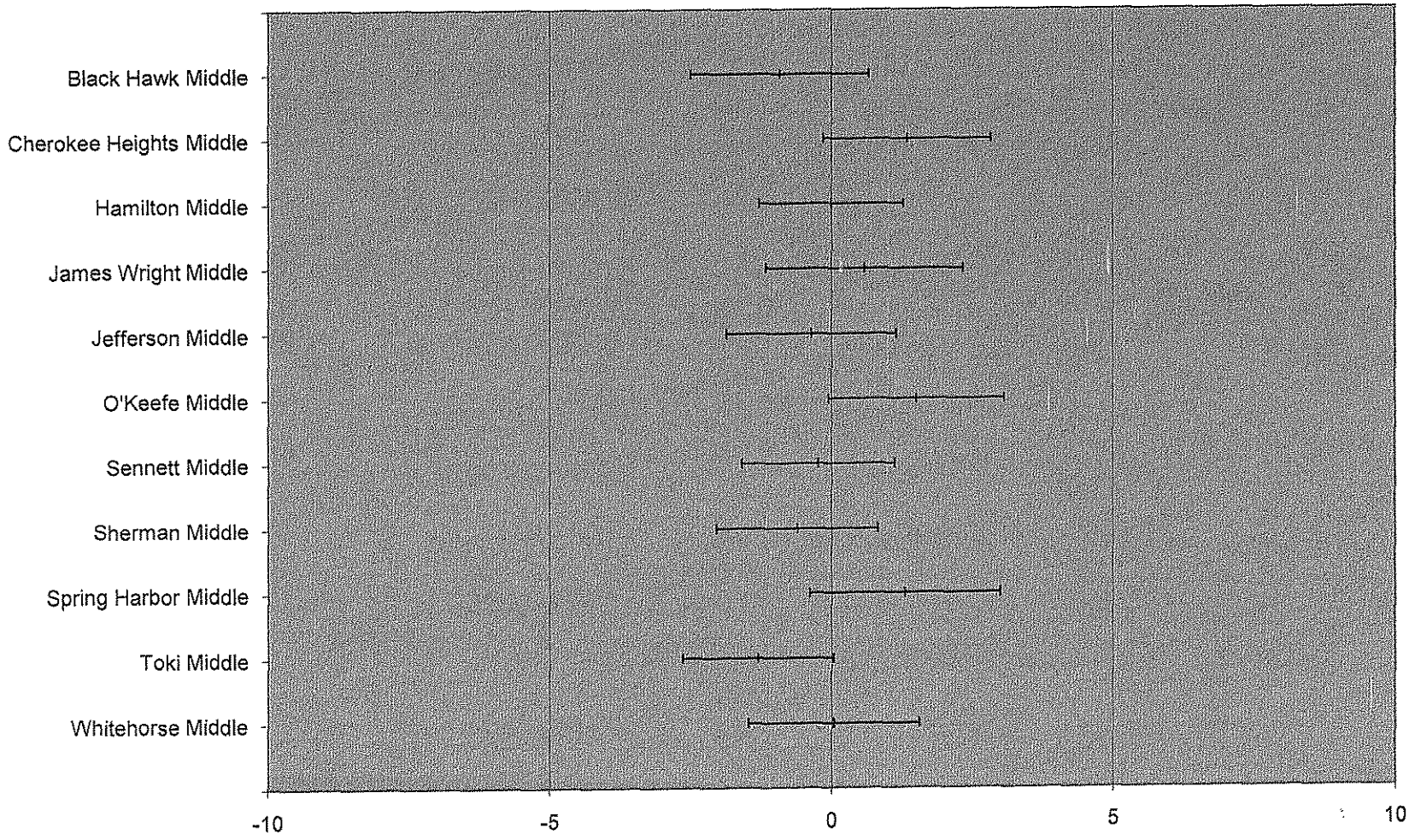
Reading Value Added, Middle, 2005-2007



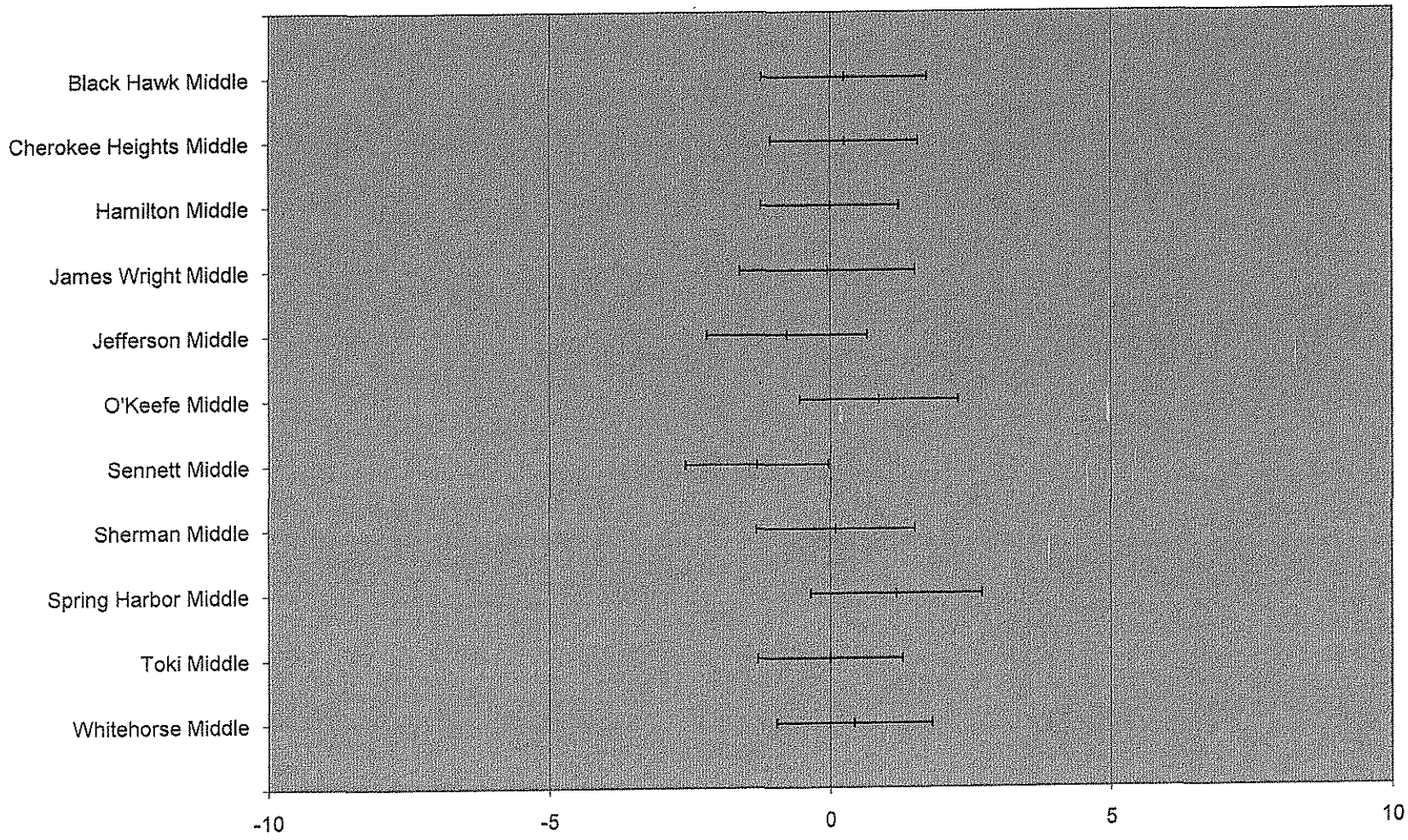
Reading Value Added, Middle, 2006-2008



Math Value Added, Middle, 2005-2007



Math Value Added, Middle, 2006-2008



Value-Added
Madison Metropolitan School District

October 14th 2009

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Topics for Today

- Attainment vs. Growth
- Why Value-Added
- Value-Added in MMSD
- MMSD Report

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Attainment and Growth Models

- Attainment model - a "point in time" measure of student proficiency
  - compares the measured proficiency rate with a predefined proficiency goal.
- Growth model – measures average gain in student scores from one year to the next
  - accounts for the prior knowledge of students.

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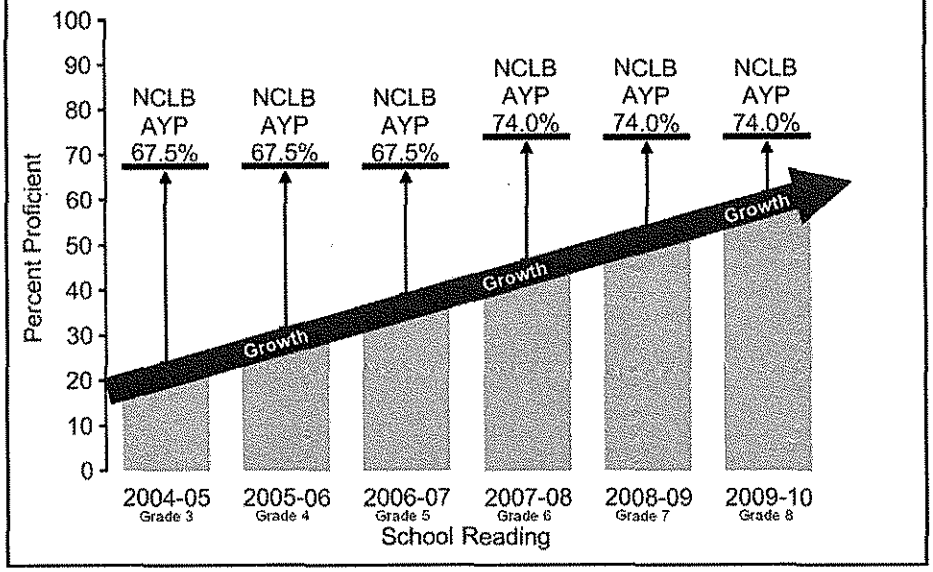
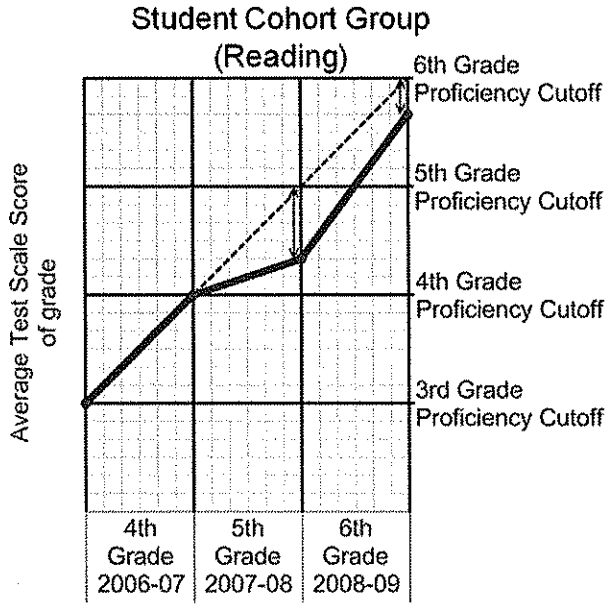
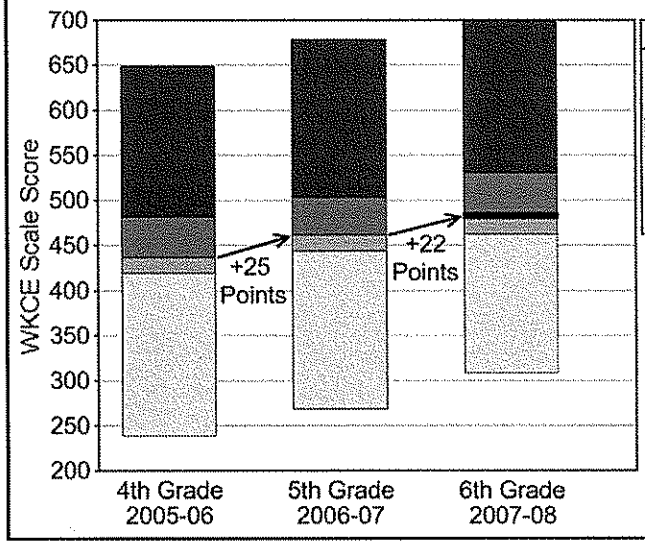
Attainment versus Growth



Equitable Nature of Growth Measures



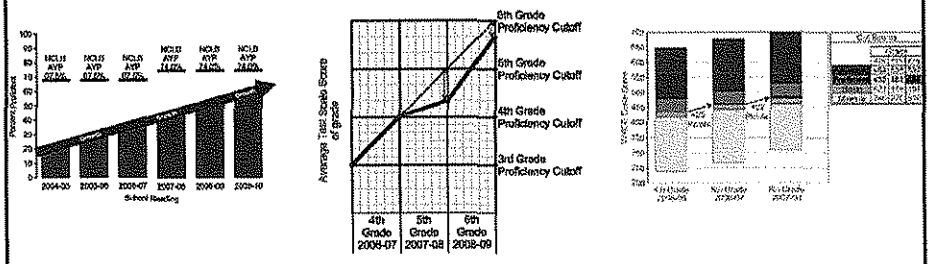
WKCE Mathematics Standards: The Need for Scale Score Growth



Cut Scores

	Grade		
	4th	5th	6th
Advanced	484	505	532
Proficient	**438**	**463**	**485**
Basic	421	445	464
Minimal	240	270	310

We have progressed from Attainment to Growth



Now, on to Value-Added

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What is Value-Added?

- It is a kind of growth model that measures the contribution of schooling to student performance on the WKCE in reading and in mathematics
- Uses statistical techniques to separate the impact of schooling from other factors that may influence growth
- Focuses on how much students improve on the WKCE from one year to the next as measure in scale score

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Demographic Controls

- Value-added controls for the demographic composition of schools
- These controls allow for fairer growth comparisons to be made
- Controlling for demographic factors make possible the measurement of differences in growth across demographic groups district-wide (for example, ELL vs non-ELL)

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MMSD Value-Added School Report

- This report may help you answer the following questions:
  - How much does a school contribute to student growth?
  - How does this impact differ across grade levels?


Value-Added School Report

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Value-Added Description and Scores
Page 1

Here are your results for Value-Added and Attainment (as determined by percent proficient).
Percent proficient is determined by the percentage of students scoring proficient or advanced on the WKCE.
This percentage is a weighted average of students' pre-test scores over the two year period.

School-Level Example: on average, the year-to-year gain between 2006 and 2008 for your students in reading was 3.4 scale score points higher than similar students district-wide.

Grade-Level Example: on average, the year-to-year gain between 2006 and 2008 for your students from 3rd to 4th grade math was 10.8 scale score points higher than similar 3rd to 4th grade students district-wide.

SCHOOL-LEVEL VALUE-ADDED, 2006-2008

	Value-Added Score	Percent Proficient
Reading	3.4	70
Math	3.9	42

GRADE-LEVEL VALUE-ADDED, 2006-2008

	Reading		Math	
	Value-Added Score	Percent Proficient	Value-Added Score	Percent Proficient
3rd to 4th	6.5	70	10.8	43
4th to 5th	-2.4	81	2.3	55
5th to 6th	3.8	62	-0.5	46

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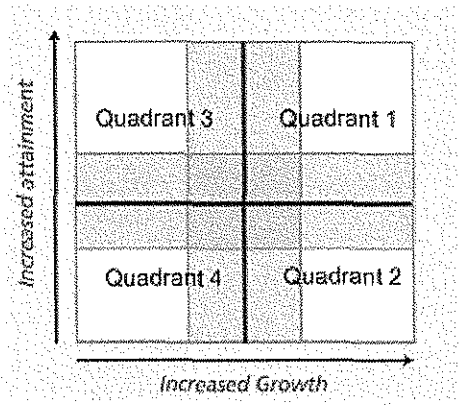
Analysis of Growth and Attainment
Page 2

- A school's value-added score can be compared to its percent proficient. This type of comparison will result in a school falling into 1 of 4 different quadrants.



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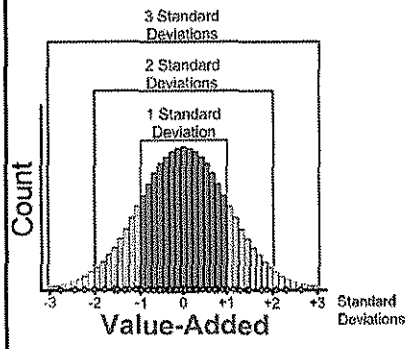
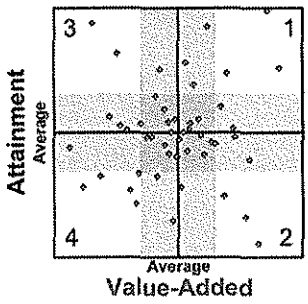
Plotting Value-Added



Value-Added vs. Attainment - Quadrants



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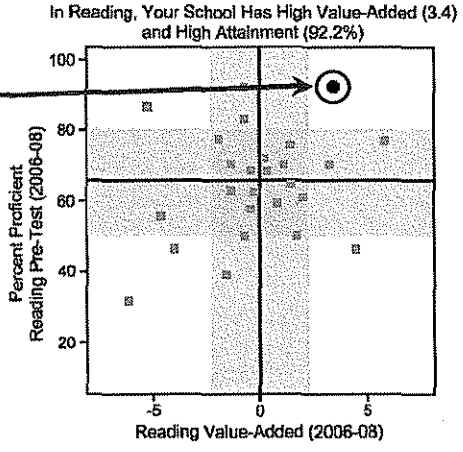
Analysis of Growth and Attainment

- Quadrants
  - Reading
  - Math



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Quadrant Analysis

- Perspectives
  - Superintendent analyzing schools
  - Principal assessing school and analyzing grade-level performance
- Cautions:
  - It is critical to understand the dangers of over-interpreting the data.

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Value-added as a Diagnostic Tool
Page 3

- This page may help you answer the following questions:
  - How certain should I be that my students are performing at a certain level?

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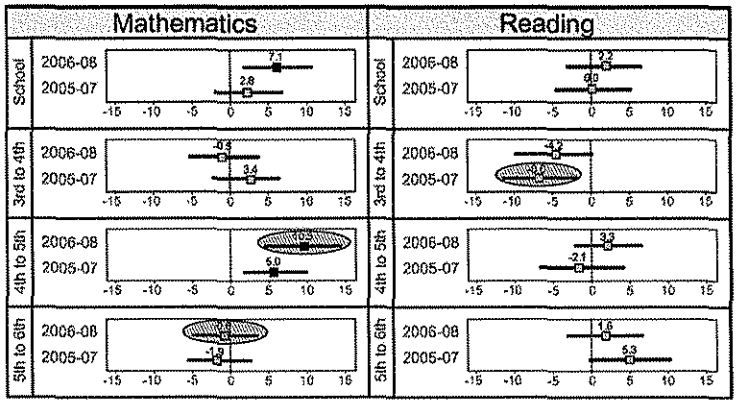
Value-Added as a Diagnostic Tool

- Confidence Interval Example



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Value-Added as a Diagnostic Tool

Information to interpret confidence intervals

To help understand the confidence intervals, we have coded them into three categories:

■ (black) = The entire interval is above zero. This means you can be sure that your school's impact on student growth is above-average.

□ (gray) = The interval crosses zero. This means that your school's impact may range from above-average to below-average. A positive value-added score means a higher chance of above-average impact; a negative value-added score means a higher chance of below-average impact.

□ (white) = The entire interval is below zero. This means you can be sure that your school's impact on student growth is below-average.

If you have and questions about interpreting this report, please contact John Doe at JohnDoe@email.com

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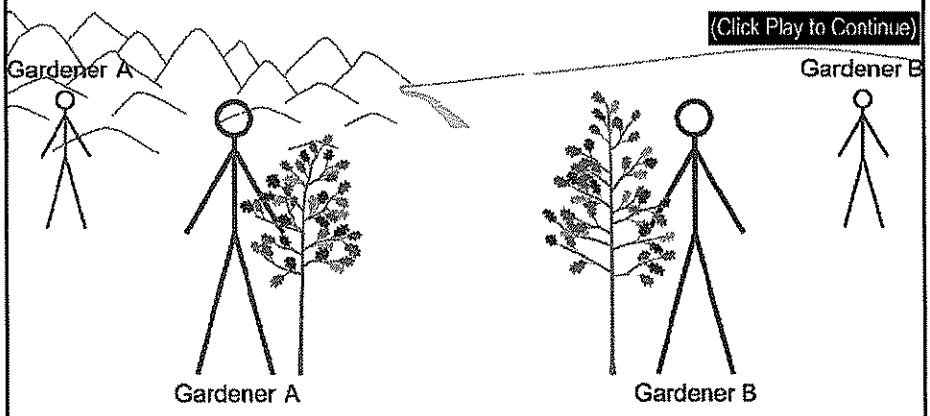
VARC Website

varc.wceruw.org

Let's evaluate the performance of two gardeners.

We keep a yearly record to keep track of the height of the trees for evaluation.

For the past year, they have been tending to their oak trees trying to maximize the height of the trees.

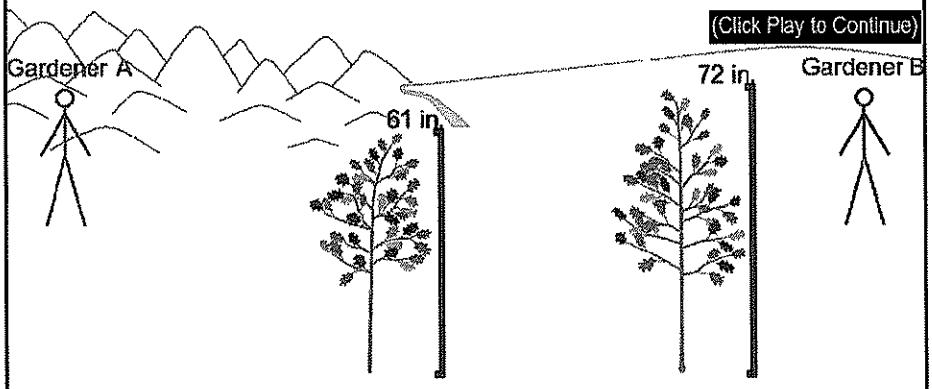


1

To measure the performance of the gardeners, we will measure the height of the trees today (1 year after they began tending to the trees).

Using this method, Gardener B is the superior gardener.

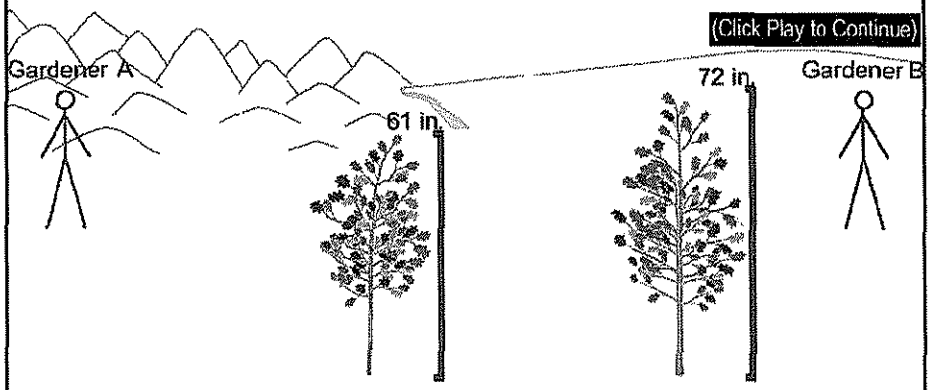
This method is analogous to using an Attainment Model.



2

This result does not tell the whole story. These trees are now 4 years old, so these gardeners did not start with acorns.

Using our yearly record, we can see that last year the trees were much shorter. This is the state in which our gardeners received the oak trees.

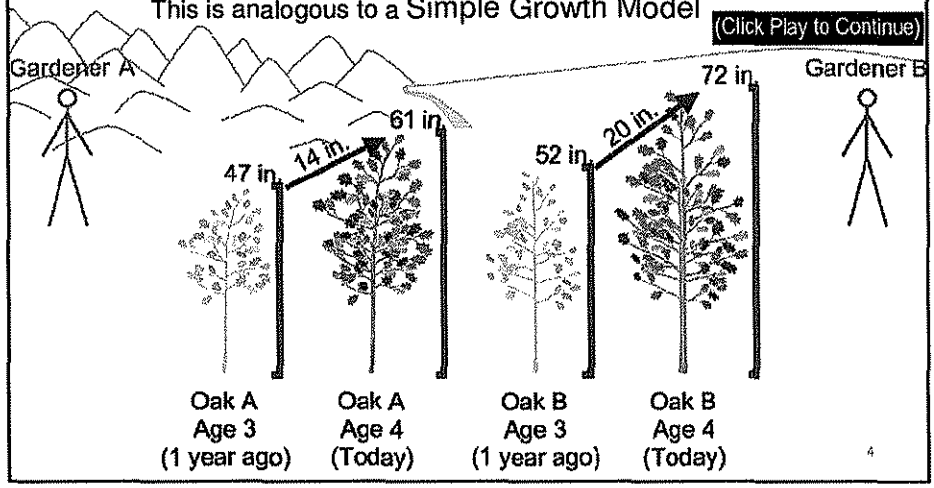


3

Using our records, we can compare the height of the trees one year ago to the height today.

By finding the difference between these heights, we can find how much the trees grew during the year of gardener's care. We can see that Oak B had superior growth this year.

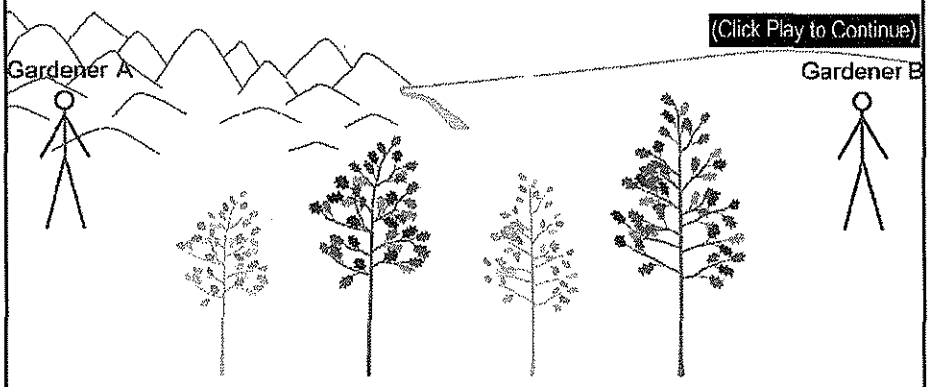
This is analogous to a Simple Growth Model



4

That result does not tell the whole story. If we really want to give the gardeners a level playing field, we need to take into account other factors beyond their control.

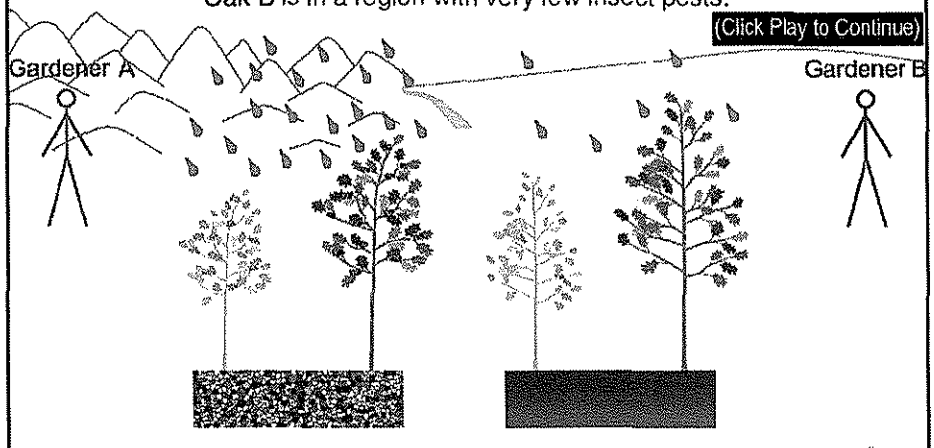
For our oak tree example, three factors we will control for are:
Rainfall, Soil Richness, and Number of Insect Pests.



Oak A is in a region that experiences a high level of rainfall.
Oak B is in a region with very low rainfall.

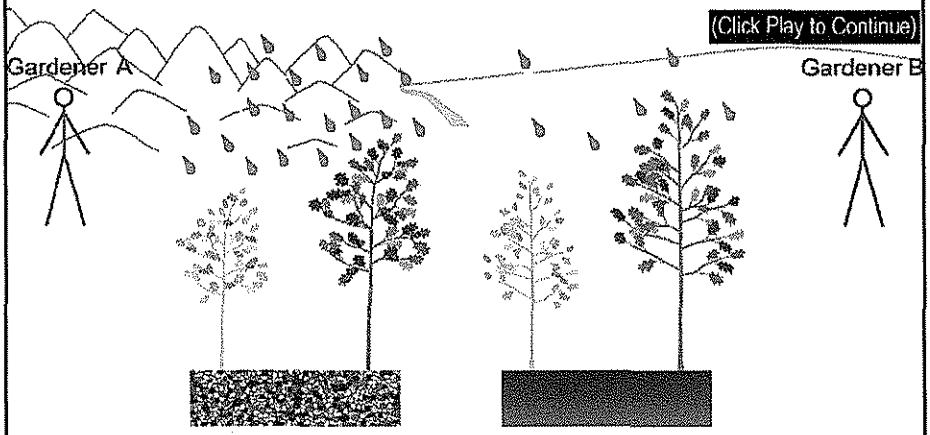
Oak A is in a region with poor soil richness.
Oak B is in a region with very rich soil.

Oak A is in a region infested with insect pests.
Oak B is in a region with very few insect pests.



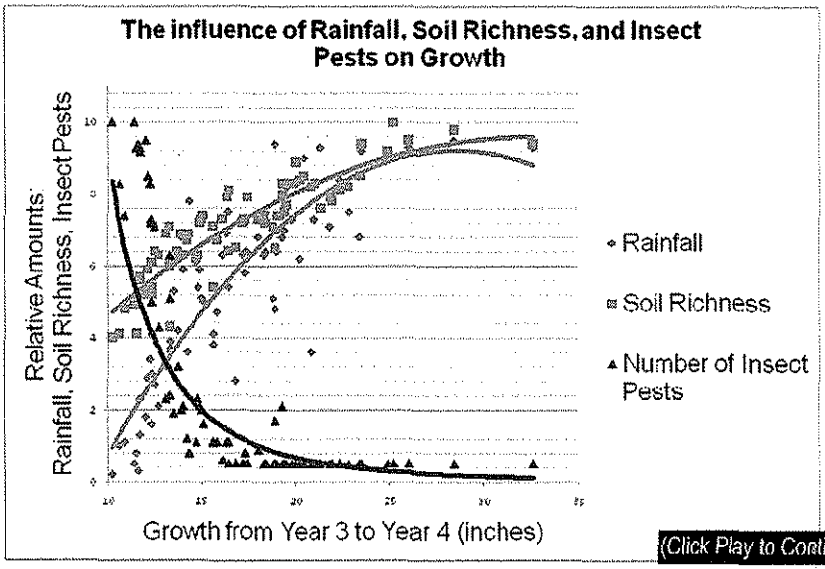
To isolate the effect of the gardeners, we will **control** for these effects. Once these differences are accounted for, we will have a clearer picture of what the gardeners **themselves are contributing to the growth** of the oak trees.

In order to account for these differences in conditions, we will look at **all** trees in the area and find out **how their conditions affected growth patterns.**



7

If we plot the growth of all oaks in the area compared to their rainfall, soil richness, and number of insect pests, we can determine trends for how much these impacted the growth of oak trees during the last year.



With this data, we can then break down the growth trends so we can apply them to our oak trees to give the gardeners a level playing field.

Now we can go back to **Oak A** and **Oak B** to control for their growing conditions.

High rainfall resulted in **+3** inches of growth compared to the average
Medium rainfall resulted in **0** inches of growth compared to the average
Low rainfall resulted in **-5** inches of growth compared to the average

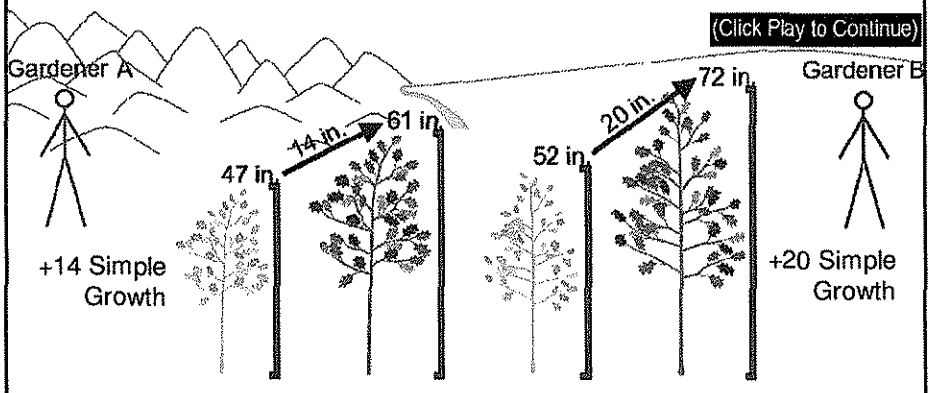
High soil richness resulted in **+2** inches of growth compared to the average
Medium soil richness resulted in **0** inches of growth compared to the average
Low soil richness resulted in **-3** inches of growth compared to the average

High insect pests resulted in **-8** inches of growth compared to the average
Medium insect pests resulted in **0** inches of growth compared to the average
Low insect pests resulted in **+5** inches of growth compared to the average

(Click Play to Continue)

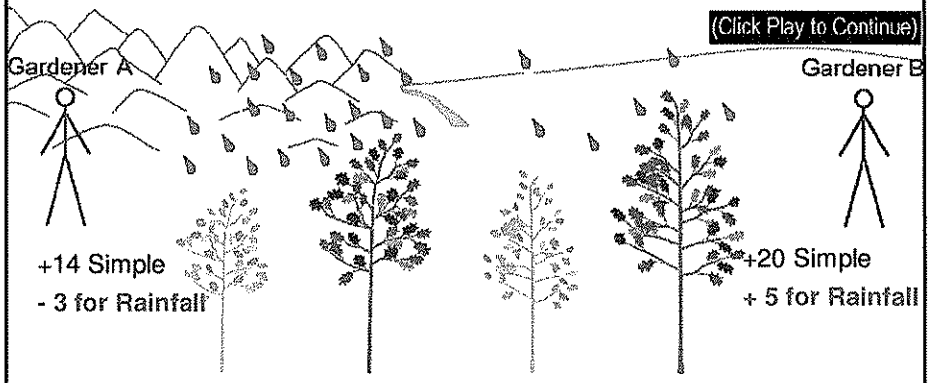
To calculate our new adjusted growth, we need to start with simple growth.

Now we will adjust for conditions to give an "apples to apples" comparison of the two oak trees.



For having high rainfall, Oak A's growth is adjusted by -3 to compensate.

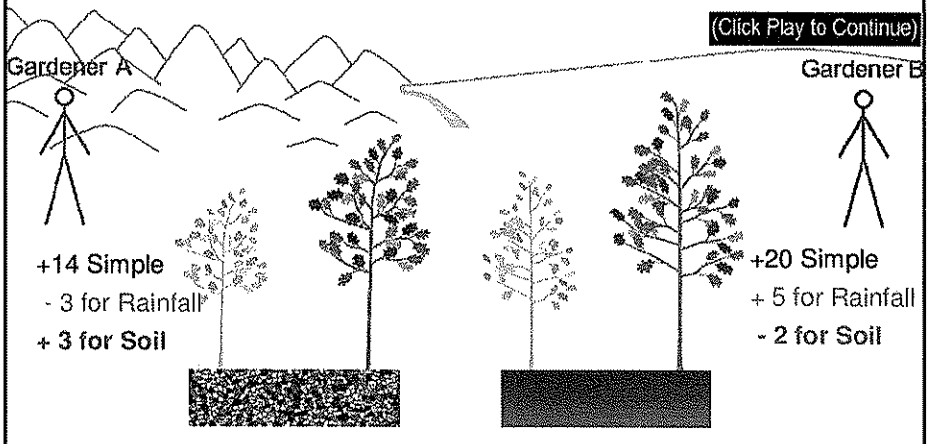
For having low rainfall, Oak B's growth is adjusted by +5 to compensate.



11

For having poor soil, Oak A's growth is adjusted by +3 to compensate.

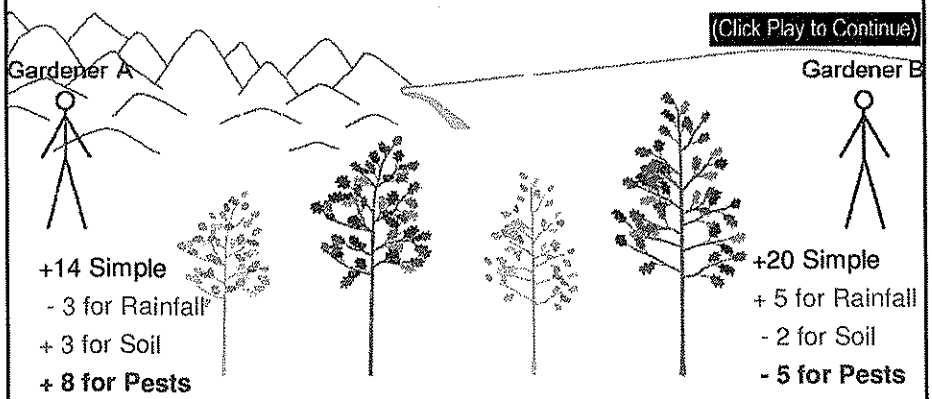
For having rich soil, Oak B's growth is adjusted by -2 to compensate.



12

For having many pests, Oak A's growth is adjusted by +8 to compensate.

For having few pests, Oak B's growth is adjusted by -5 to compensate.

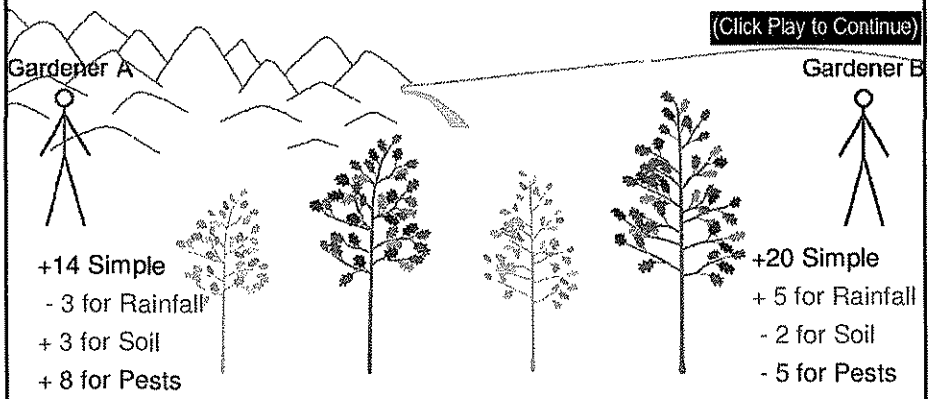


13

Now we can find the adjusted growth for both of the oak trees and isolate for the effect of the Gardeners since they are now on a level playing field.

We calculate that Gardener A's effect (Value-Added) on Oak A is +22 inches

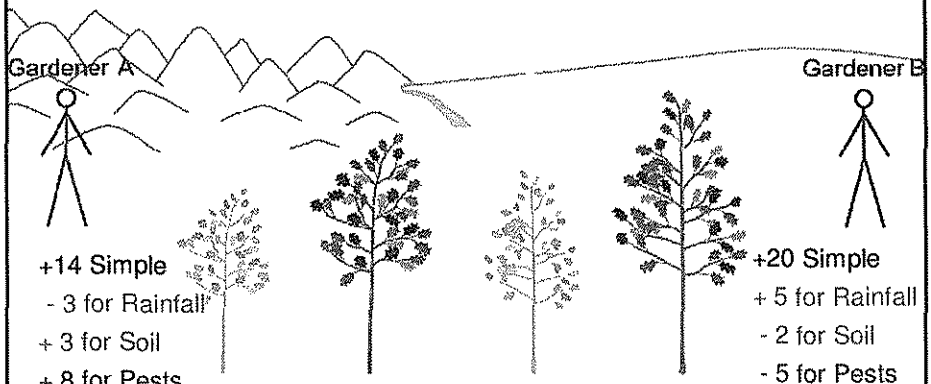
We calculate that Gardener B's effect (Value-Added) on Oak B is +18 inches



Using this method, **Gardener A is the superior gardener.**

By accounting for last year's height and environmental conditions of the trees during this year, we have isolated the effect of the Gardeners.

This is analogous to a **Value-Added Model.**



+14 Simple
- 3 for Rainfall
+ 3 for Soil
+ 8 for Pests

+22 inches
Adjusted Growth

+20 Simple
+ 5 for Rainfall
- 2 for Soil
- 5 for Pests

+18 inches
Adjusted Growth

MADISON METROPOLITAN SCHOOL DISTRICT

Value-Added School Report

Marquette Elementary - Madison Metropolitan School District, 2006-2008

This report presents value-added results at the school and grade level. The values added are presented for two overlapping time periods: the first period includes the November 2005, 2006, and 2007 WKCE administrations, and the more recent period includes the November 2006, 2007, and 2008 WKCE administrations. This presents value-added as a two-year moving average to increase precision and avoid over interpretation of trends. Value-added is measured in reading and math.

Value-added is a nationally recognized way of measuring growth that is used in districts nationwide. For the Madison Metropolitan School District, value-added measures have been developed in collaboration with academic experts from the University of Wisconsin - Madison. Value-added measures are a more informative, accurate and equitable way to measure how your students progress from one year to the next. It is more informative because it measures the actual amount of growth in WKCE scale score points; more accurate because it reflects growth at all levels of student achievement; and more equitable because it accounts for differences in student populations.

Value-added measures provide data to help you answer questions such as, How much does a school contribute to student growth? How does this impact differ across grade levels? Value-added estimates should be considered an additional piece of information available to help you make informed decisions.

Student progress varies by grade, prior performance and demographics. Value-added measures account for these factors and allow for a comparison of students to district averages at the school and grade levels.

School Level Value-Added is reported as the number of extra points students at a school scored on the 2006 and 2008 WKCE relative to observationally similar students across the district. A school with a zero value-added is an average school in terms of value-added. Students at a school with a value-added of 3 scored 3 points higher on the WKCE on average than observationally similar students at other schools across the district.

Grade Level Value-Added measures a school's value-added specifically for those students making a specific grade progression. Under the header 3rd to 4th, value-added is presented for students who progressed from grade 3 to grade 4 between testing periods. It is equal to the number of extra points students progressing from grade 3 to grade 4 at a school scored on the WKCE relative to observationally similar students making the same grade progression at other schools across the district. The average across schools is zero.

These are your results for Value-Added and Attainment (as determined by percent proficient). Percent proficient is determined by the percentage of students scoring proficient or advanced on the WKCE.

School-Level Example: on average, the year-to-year gain between 2006 and 2008 for your students in reading was 0.8 scale score points higher than similar students district-wide.

Grade-Level Example: on average, the year-to-year gain between 2006 and 2008 for your students from 3rd to 4th grade math was 0.4 scale score points lower than similar 3rd to 4th grade students district-wide.

SCHOOL-LEVEL VALUE-ADDED, 2006-2008

	Value-Added Score	Percent Proficient
Reading	0.8	89.3
Math	2.8	85.7

GRADE-LEVEL VALUE-ADDED, 2006-2008

	Reading		Math	
	Value-Added Score	Percent Proficient	Value-Added Score	Percent Proficient
3rd to 4th	-0.2	85.9	-0.4	85.9
4th to 5th	0.5	90.2	3.1	83.6
5th to 6th	1.3	91.5	3.4	87.3

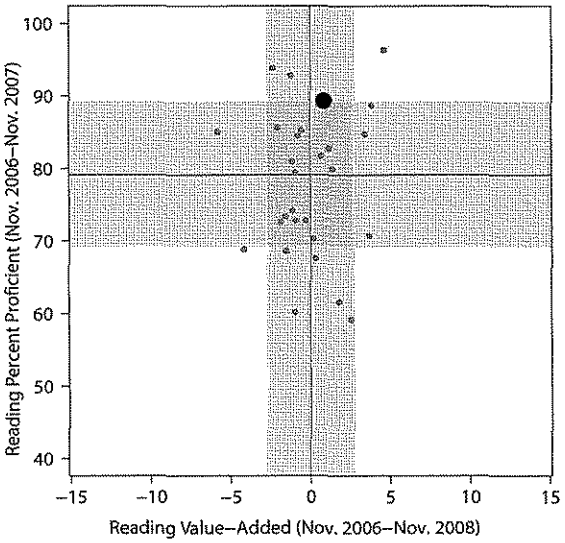
MADISON METROPOLITAN SCHOOL DISTRICT

Your school compared to the rest of the district

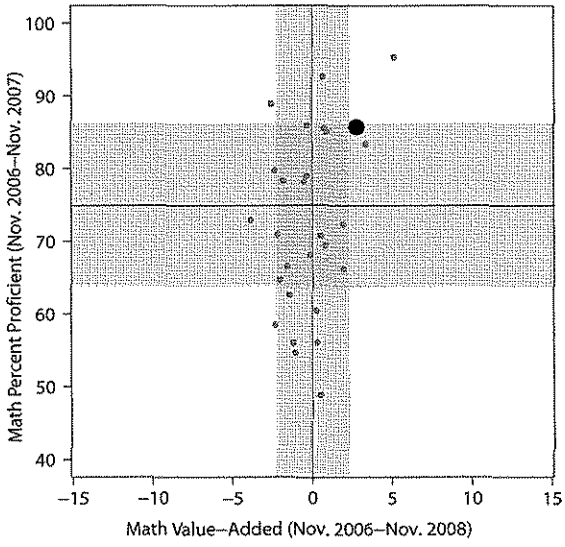
The district can use this information to more accurately identify best practices and target schools needing assistance.

The charts below compare your school's student growth (value-added) in reading and mathematics to student attainment (percentage of students who meet or exceed the WKCE proficiency cutoff). Value-added scores are read along the bottom, and attainment is read along the left-hand side.

In Reading, Your School Has Above–Average Value–Added (0.8)
and Above–Average Percent Proficient (89.3%)

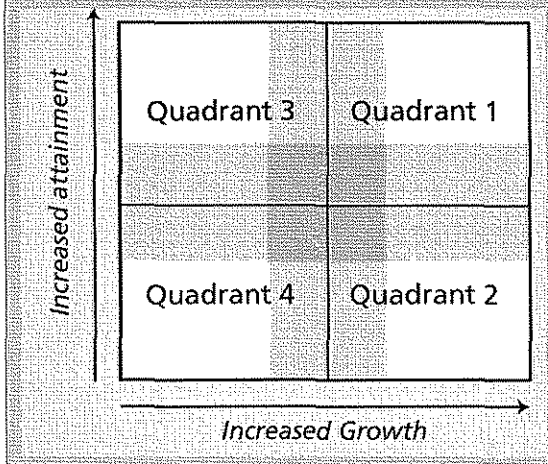


In Math, Your School Has Above–Average Value–Added (2.8)
and Above–Average Percent Proficient (85.7%)



● Your school
■ Schools in your district

Each data point represents a school and is determined by plotting a school's value-added score against the school's percent proficient/advanced on the WKCE (attainment). The district average for both value-added and attainment (represented by the bold black lines) provides the structure upon which the four quadrants are distinguished. Schools fall into one of the four different quadrants. The gray shaded areas above and below, and to the left and the right of the district average lines represent one standard deviation away from that line.



Schools in Quadrant 1 (high value added, high attainment) are above average in growth and attainment.

Schools in Quadrant 2 (high value added, low attainment) are above average in growth and below average in attainment.

Schools in Quadrant 3 (low value added, high attainment) are below average in growth and above average in attainment.

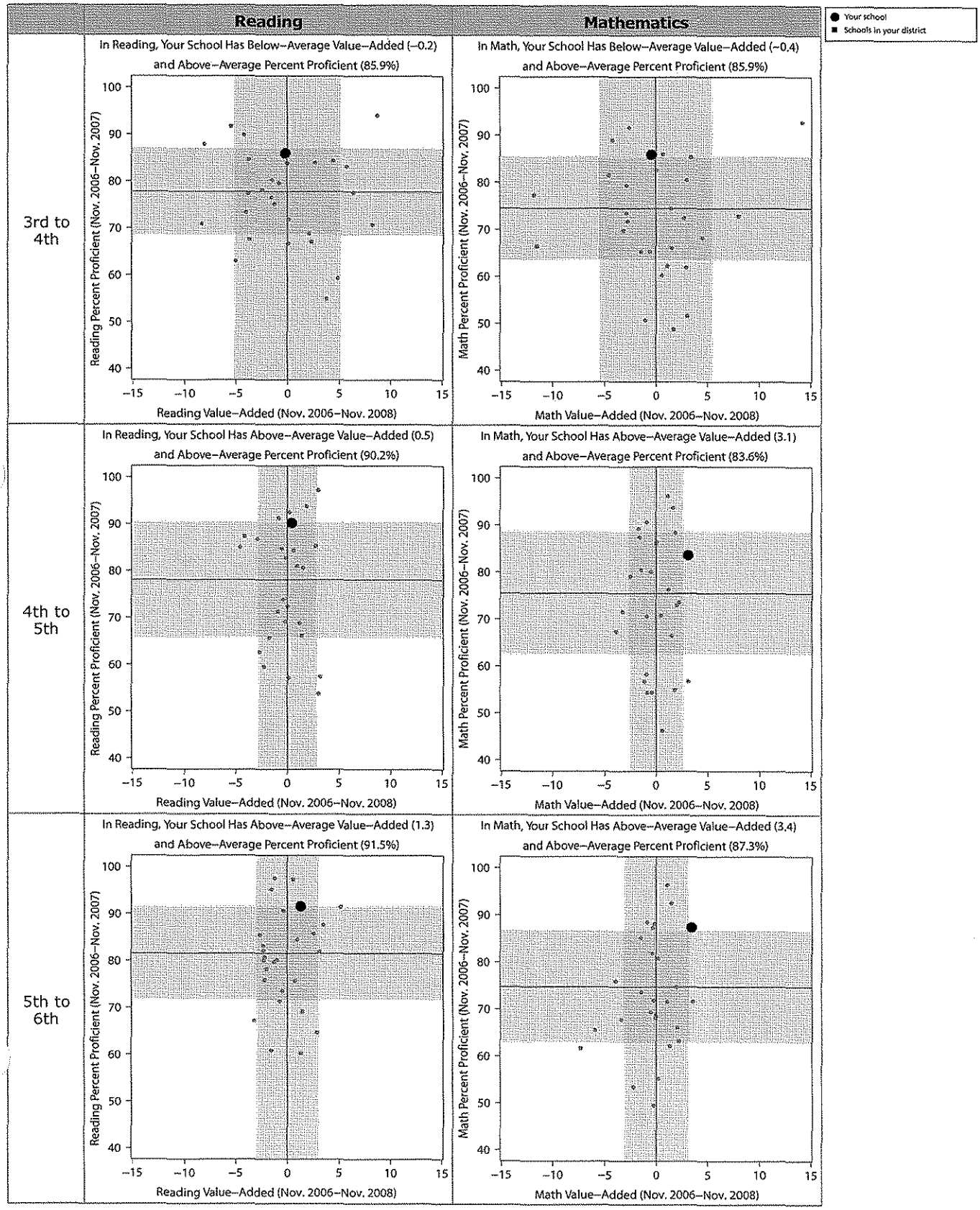
Schools in Quadrant 4 (low value added, low attainment) are both below average in growth and in attainment.

The gray shaded areas above and below, and to the left and the right of the district average lines represent one standard deviation away from that line. Schools should interpret this chart with caution. The farther a school falls from the grey shaded area, the more confident one can be about their placement in that quadrant.

MADISON METROPOLITAN SCHOOL DISTRICT

Marquette Elementary / District Averages Value-Added and Attainment Quadrants

2006-2008



MADISON METROPOLITAN SCHOOL DISTRICT

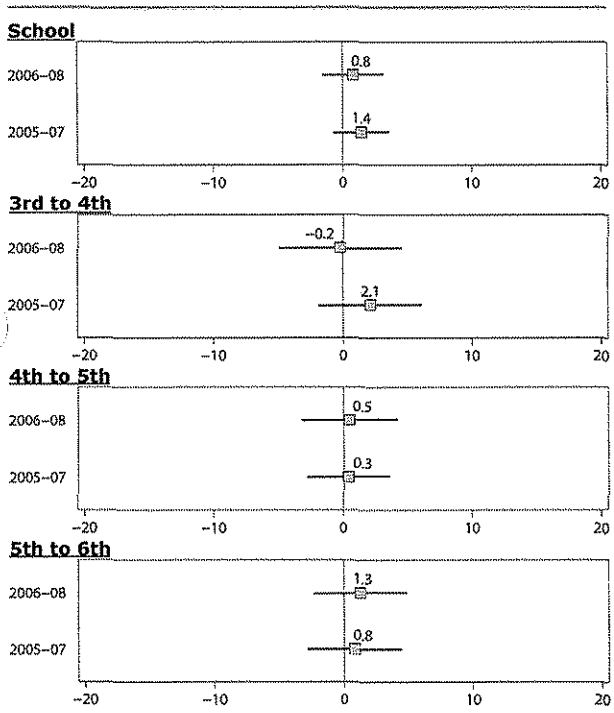
Identifying areas in your school needing support

Confidence intervals provide additional information to assess your school

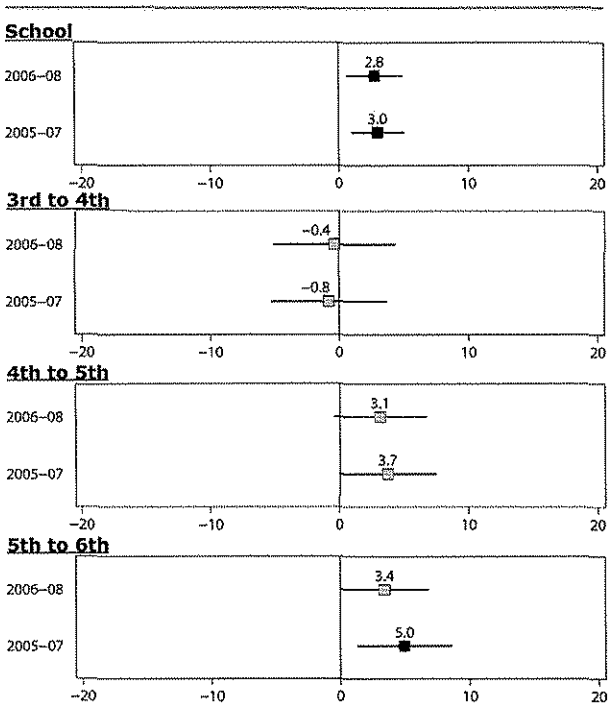
The value-added scores are calculated using a statistical model that reflects all measurable student factors that impact growth (see pg. 1). The measurable information used to calculate scores is necessarily limited by the finite size of student populations and by additional factors impacting growth which cannot be appropriately measured (i.e. family circumstances). A confidence interval is a standard way to deal with limited information. Confidence intervals represent a range of scores around the value-added estimate and provide an additional level of understanding.

In the charts below, areas where your school's impact on growth is definitely above the average of similar students district-wide are marked black and areas where your school's impact is definitely below average are marked in white (see more information on color codes below the confidence interval charts). To identify potential areas to target for support, schools should first differentiate by category, then by value-added score.

Reading



Mathematics



To help understand the confidence intervals, we have coded them into threee categories:

■ (black) = The entire interval is above zero. This means you can be sure that your school's impact on student growth is above-average.
▨ (gray) = The interval crosses zero. This means that your school's impact may range from above-average to below-average. A positive value-added score means a higher chance of above-average impact; a negative value-added score means a higher chance of below-average impact.
□ (white) = The entire interval is below zero. This means you can be sure that your school's impact on student growth is below-average.

If you have any questions about interpreting this report, please contact Kurt Kiefer, MMSD Chief Information Officer 608-663-4946