STATE OF MICHIGAN
DEPARTMENT OF EDUCATION
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

THOMAS D. WATKINS, JR.
SUPERINTENDENT OF
PUBLIC INSTRUCTION

TO: State Board of Education

FROM: Tom Watkins

DATE: September 9, 2004

SUBJ: APPROVAL OF CALCULATION OF ADEQUATE YEARLY PROGRESS FOR SMALL, RURAL AND SPECIALIZED SCHOOLS

The No Child Left Behind Act of 2001 (NCLB) requires states to calculate adequate yearly progress (AYP) for all public schools. At the same time, the Act permits each state to declare a minimum number of students that need to be enrolled in the grade level or student group to be tested, in order to calculate AYP. In our recent issuance of elementary and middle school report cards, we were unable to calculate AYP for 118 schools that did not have sufficient numbers of students.

In order to comply with the law and issue AYP designations to these small schools, as well as to other specialized schools that did not get a report card (for example, Special Education center programs), we are proposing the use of a modified confidence interval.

This modified confidence interval is described in the attached pages, which consist of a memorandum sent to the U.S. Department of Education for the Department's preliminary review.

On September 9, we were informed that the U. S. Department of Education will approve our confidence interval proposal, if it is approved by the State Board of Education.

The staff recommends that the Board approve the proposal to employ a modified confidence interval statistic, described in the attached memorandum to the U. S. Department of Education, dated September 2, 2004, to calculate AYP for small, rural, and specialized schools whose student enrollments, at the grade levels tested, are less than 30.

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TO: Darla Marburger, U.S. Office of Education

FROM: Jeremy M. Hughes, Ph.D.
Chief Academic Officer/Deputy Superintendent

DATE: September 2, 2004

SUBJ: PROPOSED CONFIDENCE INTERVAL FOR SMALL SCHOOLS

Per our phone conversation yesterday, we intend to propose to the State Board of Education, at its September 14, 2004 meeting, that a sliding-scale type of confidence interval be applied to small schools that enroll fewer than 30 students at the grade level tested. (Thirty [30] is the minimum N that you have approved for Michigan for purposes of calculating AYP based on the achievement scores of students in English Language Arts and Mathematics.)

I am attaching excel files depicting how the confidence intervals would be applied to the various sizes of schools, ranging from 29 students to 1. (Note that there is only one excel file for middle schools since the middle school achievement target is the same for both ELA and Math.)

You will note that we are applying the confidence interval not to achievement scores but to the percentages of students who need to demonstrate proficiency on the state assessments in order for the school to be considered making AYP. For example, an elementary school with 20 students enrolled needs to have 35% of its students proficient on the state ELA test, as opposed to 38% (the state target) for schools of 30 or more students.

I acknowledge that this "sliding scale" is a bit unusual, as well as perhaps the application of a confidence interval to the percent-proficient as opposed to actual achievement scores. We feel, however, this proposal has the best chance of being approved by our State Board of Education. As you know from some of our earlier conversations, our state board has been opposed to the use of a traditional confidence interval formula because of the wide score range that results, allowing, perhaps, more schools to be classified as making AYP when they are actually not achieving well and are in need of improvement.

The sliding scale being proposed imposes, we feel, a more conservative, rigorous criterion that will still benefit small schools to a certain degree.

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In our conversation yesterday, I also mentioned that we were considering a request to use a "backmapping" approach with these schools as a second tier to determine AYP. In other words, after the application of the proposed confidence interval formula above, if the school were still not making AYP we would consider whether the school could make AYP by backmapping the AYP designation of the school into which it fed its students. We are not longer considering this and it will not be part of our proposed Accountability Workbook amendments.

I would appreciate hearing from you as soon as possible, in order to begin preparing materials for the September 14 State Board of Education meeting.

If you or your psychometric staff have questions about our proposal, I would also invite you to contact our Department of Education psychometrician, Dr. Joseph Martineau, at 517-241-1740.

Elementary School ELA

38.0%	State objective
5%	Confidence Interval (C.I.) Width for classrooms of size N=29
68.5%	Maximum C.I. Width

# tested	Width of C.I.	+/- s.e.	S.E.(state objective)	Lower bound on C.I.	# proficient to make AYP *with* C.I.	# proficient to make AYP *without* C.I.	Difference
30	0.0%	0.00	0.09	38.0%	11	11	0
29	5.0%	0.06	0.09	37.4%	11	11	0
28	7.3%	0.09	0.09	37.2%	10	11	1
27	9.5%	0.12	0.09	36.9%	10	10	0
26	11.8%	0.15	0.10	36.6%	10	10	0
25	14.1%	0.18	0.10	36.3%	9	10	1
24	16.3%	0.21	0.10	36.0%	9	9	0
23	18.6%	0.24	0.10	35.6%	8	9	1
22	20.9%	0.26	0.10	35.3%	8	8	0
21	23.1%	0.29	0.11	34.9%	7	8	1
20	25.4%	0.32	0.11	34.5%	7	8	
19	27.7%	0.35	0.11	34.1%	6	7	
18	29.9%	0.38	0.11	33.6%	6	7	
17	32.2%	0.42	0.12	33.1%	6	6	0
16	34.5%	0.45	0.12	32.6%	5	6	1
15	36.8%	0.48	0.13	32.0%	5	6	1
14	39.0%	0.51	0.13	31.4%	4	5	1
13	41.3%	0.54	0.13	30.7%	4	5	1
12	43.6%	0.58	0.14	29.9%	4	5	1
11	45.8%	0.61	0.15	29.1%	3	4	1
10	48.1%	0.64	0.15	28.1%	3	4	1
9	50.4%	0.68	0.16	27.0%	2	3	1
8	52.6%	0.72	0.17	25.7%	2	3	1
7	54.9%	0.75	0.18	24.2%	2	3	1
6	57.2%	0.79	0.20	22.3%	1	2	1
5	59.4%	0.83	0.22	20.0%	1	2	1
4	61.7%	0.87	0.24	16.8%	1	2	1
3	64.0%	0.91	0.28	12.4%	1	1	0
2	66.2%	0.96	0.34	5.1%	1	1	0
1	68.5%	1.00	0.49	0.0%	1	0	-1

Elementary School Math

48.0%	State objective
5%	Confidence Interval (C.I.) Width for classrooms of size N=29
68.5%	Maximum C.I. Width

# tested	Width of C.I.	+/- s.e.	S.E.(state objective)	Lower bound on C.I.	# proficient to make AYP *with* C.I.	# proficient to make AYP *without* C.I.	Difference
30	0.0%	0.00	0.09	48.0%	14	14	0
29	5.0%	0.06	0.09	47.4%	14	14	0
27	9.5%	0.12	0.10	46.8%	13	13	0
26	11.8%	0.15	0.10	46.5%	12	12	0
25	14.1%	0.18	0.10	46.2%	12	12	0
24	16.3%	0.21	0.10	45.9%	11	12	1
23	18.6%	0.24	0.10	45.5%	10	11	1
22	20.9%	0.26	0.11	45.2%	10	11	1
21	23.1%	0.29	0.11	44.8%	9	10	1
20	25.4%	0.32	0.11	44.4%	9	10	1
19	27.7%	0.35	0.11	43.9%	8	9	1
18	29.9%	0.38	0.12	43.5%	8	9	1
17	32.2%	0.42	0.12	43.0%	7	8	1
16	34.5%	0.45	0.12	42.4%	7	8	1
15	36.8%	0.48	0.13	41.8%	6	7	
14	39.0%	0.51	0.13	41.2%	6	7	1
13	41.3%	0.54	0.14	40.5%	5	6	1
12	43.6%	0.58	0.14	39.7%	5	6	1
11	45.8%	0.61	0.15	38.8%	4	5	1
10	48.1%	0.64	0.16	37.8%	4	5	1
9	50.4%	0.68	0.17	36.7%	3	4	1
8	52.6%	0.72	0.18	35.3%	3	4	1
7	54.9%	0.75	0.19	33.8%	2	3	1
6	57.2%	0.79	0.20	31.8%	2	3	1
5	59.4%	0.83	0.22	29.4%	1	2	1
4	61.7%	0.87	0.25	26.2%	1	2	1
3	64.0%	0.91	0.29	21.6%	1	1	0
2	66.2%	0.96	0.35	14.1%	1	1	0
1	68.5%	1.00	0.50	0.0%	1	0	-1

Middle School

31.0%	State objective
5%	Confidence Interval (C.I.) Width for classrooms of size N=29
68.5%	Maximum C.I. Width

# tested	Width of C.I.	+/- s.e.	S.E.(state objective)	Lower bound on C.I.	# proficient to make AYP *with* C.I.	# proficient to make AYP *without* C.I.	Difference
30	0.0%	0.00	0.08	31.0%	9	9	0
29	5.0%	0.06	0.09	30.5%	9	9	0
28	7.3%	0.09	0.09	30.2%	8	9	1
27	9.5%	0.12	0.09	29.9%	8	8	0
26	11.8%	0.15	0.09	29.7%	8	8	0
25	14.1%	0.18	0.09	29.4%	7	8	
24	16.3%	0.21	0.09	29.1%	7	7	0
23	18.6%	0.24	0.10	28.7%	7	7	0
22	20.9%	0.26	0.10	28.4%	6	7	1
21	23.1%	0.29	0.10	28.0%	6	7	1
20	25.4%	0.32	0.10	27.6%	6	6	0
19	27.7%	0.35	0.11	27.2%	5	6	1
18	29.9%	0.38	0.11	26.8%	5	6	1
17	32.2%	0.42	0.11	26.3%	4	5	1
16	34.5%	0.45	0.12	25.8%	4	5	1
15	36.8%	0.48	0.12	25.3%	4	6	1
							1
							1
							1
							1
							1
							0
							1
6	57.2%	0.79	0.19	16.0%		2	1
5	59.4%	0.83	0.21	13.8%		2	1
4	61.7%	0.87	0.23	10.8%			0
3	64.0%	0.91	0.27	6.6%			0
2	66.2%	0.96	0.33	0.0%	1		0
1	68.5%	1.00	0.46	0.0%	1	0	-1

High School ELA

42.0%	State objective
5%	Confidence Interval (C.I.) Width for classrooms of size N=29
68.5%	Maximum C.I. Width

# tested	Width of C.I.	+/- s.e.	S.E.(state objective)	Lower bound on C.I.	# proficient to make AYP *with* C.I.	# proficient to make AYP *without* C.I.	Difference
30	0.0%	0.00	0.09	42.0%	13	13	0
29	5.0%	0.06	0.09	41.4%	12	12	0
28	7.3%	0.09	0.09	41.1%	12	12	0
27	9.5%	0.12	0.09	40.9%	11	11	0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24	16.3%	0.21	0.10	39.9%	10	10	0
23	18.6%	0.24	0.10	39.6%	9	10	1
22	20.9%	0.26	0.11	39.2%	9	9	0
21	23.1%	0.29	0.11	38.8%	8	9	1
20	25.4%	0.32	0.11	38.4%	8	8	0
19	27.7%	0.35	0.11	38.0%	7	8	1
18	29.9%	0.38	0.12	37.5%	7	8	1
17	32.2%	0.42	0.12	37.0%	6	7	1
16	34.5%	0.45	0.12	36.5%	6	7	1
15	36.8%	0.48	0.13	35.9%	5	6	1
14	39.0%	0.51	0.13	35.3%	5	6	1
13	41.3%	0.54	0.14	34.6%	4	5	1
12	43.6%	0.58	0.14	33.8%	4	5	1
11	45.8%	0.61	0.15	32.9%	4	5	1
10	48.1%	0.64	0.16	31.9%	3	4	1
9	50.4%	0.68	0.16	30.8%	3	4	1
8	52.6%	0.72	0.17	29.5%	2	3	1
7	54.9%	0.75	0.19	27.9%	2	3	1
6	57.2%	0.79	0.20	26.0%	2	3	1
5	59.4%	0.83	0.22	23.6%	1	2	1
4	61.7%	0.87	0.25	20.5%	1	2	1
3	64.0%	0.91	0.28	15.9%	1	1	0
2	66.2%	0.96	0.35	8.5%	1	1	0
1	68.5%	1.00	0.49	0.0%	1	0	-1

High School ELA

33.0%	State objective
5%	Confidence Interval (C.I.) Width for classrooms of size N=29
68.5%	Maximum C.I. Width

# tested	Width of C.I.	+/- s.e.	S.E.(state objective)	Lower bound on C.I.	# proficient to make AYP *with* C.I.	# proficient to make AYP *without* C.I.	Difference
30	0.0%	0.00	0.09	33.0%	10	10	0
29	5.0%	0.06	0.09	32.5%	9	10	1
28	7.3%	0.09	0.09	32.2%	9	9	0
27	9.5%	0.12	0.09	31.9%	9	9	0
26	11.8%	0.15	0.09	31.6%	8	9	1
25	14.1%	0.18	0.09	31.3%	8	8	0
24	16.3%	0.21	0.10	31.0%	7	8	1
23	18.6%	0.24	0.10	30.7%	7	8	1
22	20.9%	0.26	0.10	30.3%	7	7	0
21	23.1%	0.29	0.10	30.0%	6	7	1
20	25.4%	0.32	0.11	29.6%	6	7	1
19	27.7%	0.35	0.11	29.2%	6	6	0
18	29.9%	0.38	0.11	28.7%	5	6	1
17	32.2%	0.42	0.11	28.3%	5	6	1
16	34.5%	0.45	0.12	27.8%	4	5	1
15	36.8%	0.48	0.12	27.2%	4	5	1
14	39.0%	0.51	0.13	26.6%	4	5	1
13	41.3%	0.54	0.13	25.9%	3	4	1
12	43.6%	0.58	0.14	25.2%	3	4	1
11	45.8%	0.61	0.14	24.4%	3	4	1
10	48.1%	0.64	0.15	23.4%	2	3	1
9	50.4%	0.68	0.16	22.3%	2	3	1
8	52.6%	0.72	0.17	21.1%	2	3	1
7	54.9%	0.75	0.18	19.6%	1	2	1
6	57.2%	0.79	0.19	17.8%	1	2	1
5	59.4%	0.83	0.21	15.5%	1	2	1
4	61.7%	0.87	0.24	12.5%	1	1	0
3	64.0%	0.91	0.27	8.2%	1	1	0
2	66.2%	0.96	0.33	1.1%	1	1	0
1	68.5%	1.00	0.47	0.0%	1	0	-1