IOWA'S GROWTH MODEL INCORPORATED INTO DECISIONS ABOUT ADEQUATE YEARLY PROGRESS (AYP)

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This study summarizes Iowa's use of an approved growth model as part of the decision process for determining Adequate Yearly Progress (AYP), under the No Child Left Behind Act of 2001. Results for two years (2006-2007 and 2007-2008) are presented, along with the effects of using the growth calculations on AYP decisions for districts and schools.

Background—Pursuant to the flexibility that the United States Department of Education (USED) extended to states, Iowa was one of nine states that successfully submitted a plan to the USED to incorporate individual student growth determinations into the decision process for Adequate Yearly Progress (AYP) for schools and districts. The growth model flexibility that was extended to states was intended to follow students identified as non-proficient across multiple years, and to monitor their improvement across time, and to acknowledge schools and districts for assisting non-proficient students who were "on track to be proficient." In this way, the determination about whether or not schools and districts were making AYP included an acknowledgement of the exemplary efforts being exhibited by teachers on behalf of non-proficient students, by helping them to progress toward attaining the NCLB achievement targets. The entire growth model proposal is the first document found at the following URL: *http://www.iowa.gov/educate/content/ blogcategory/497/921/*

Focus—The focus of the growth model proposal was to first identify students who were counted as not proficient for the 2005-2006 school year, and who were again not proficient for the 2006-2007 school year. An evaluation of the improvement of those students from 2005-2006 to 2006-2007 was conducted, and in order to be counted as being "on track to be proficient," a student must have improved at least one achievement level. The current model contains three achievement levels that include non-proficient students: Weak, Lo Marginal, and Hi Marginal. In order to be classified as having met Adequate Yearly Growth (AYG), a student must move from a lower level in 2005-2006 to a higher level in 2006-2007. Iowa's growth model was approved for use only for grades 3-8. This summary includes growth results for two school years, from 2005-2006 to 2006-2007, and from 2006-2007 to 2007-2008.

Inclusion of AYG students with AYP students—The number of students meeting AYG was determined using the above rules. Then those students were combined with the number of students who met AYP under the traditional process. The inclusion was conducted using the following steps, integrating Iowa's original status model and the new growth model.

- Determine if school/district meets AYP using original (status) model. This step uses a 98 percent Confidence Interval. If AYP is not met, proceed to the next step.
- Determine if school/district meets AYP using Safe Harbor (reducing the percent of non-proficient students by 10 percentage points from previous year to current year). If AYP is not met, proceed to the next step.
- Determine if school/district meets AYP using original (status) model. This step utilizes two years of uniformly averaged data (Biennium data check) and a 98 percent Confidence Interval. If AYP is not met, proceed to the next step.
- Determine if school/district meets AYP using original (status) model. This step utilizes three years of uniformly averaged data (Triennium data check) and a 98 percent Confidence Interval. If AYP is not met, proceed to the next step.
- Add into the proficient counts those students who were not proficient, but who met Adequate Yearly Growth (AYG).
- Determine if school/district meets AYP using original calculations. This step does not use a confidence interval. If AYP is not met, proceed to the next step.
- Determine if school/district meets AYP using Safe Harbor. If AYP is not met, proceed to the next step.
- Determine if school/district meets AYP using original calculations. This step utilizes two years of uniformly averaged data (Biennium data check) and does not use a confidence interval. If AYP is not met, proceed to the next step.
- Determine if school/district meets AYP using original calculations. This step utilizes three years of uniformly averaged data (Triennium data check) and does not use a confidence interval. If AYP is not met, the school or district misses AYP.

Student Results—The following table shows the number of students in each grade that, while continuing to be non-proficient, were allowed to be counted as making AYP because they met AYG.

Table 1—Students Meeting Adequate Yearly Growth in Reading

READING 2006-2007 ALL STUDENTS	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
Students Meeting Adequate Yearly Growth	1,538	1,251	1,075	1,737	1,767	7,368
Total students tested (Full Academic Year)	31,246	31,515	31,551	32,951	34,180	16,1443

READING 2007-2008 ALL STUDENTS	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
Students Meeting Adequate Yearly Growth	1,311	1,085	888	1,811	1,811	6,906
Total students tested (Full Academic Year)	31,536	31,437	31,648	32,091	33,007	15,9719

Source: Iowa Department of Education..

Table 2—Students Meeting Adequate Yearly Growth in Mathematics

MATH 2006-2007 ALL STUDENTS	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
Students Meeting Adequate Yearly Growth	1,109	1,002	894	1,326	1,450	5,781
Total students tested (Full Academic Year)	31,219	31,497	31,518	32,922	34,132	161,288

MATH 2007-2008 ALL STUDENTS	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
Students Meeting Adequate Yearly Growth	1,151	962	1,005	1,355	1,097	5,570
Total students tested (Full Academic Year)	31,462	31,392	31,620	32,027	32,941	159,442

Source: Iowa Department of Education..

Overall, 4.1 percent of Iowa's students, while continuing to score as non-proficient on the Iowa Tests of Basic Skills, showed growth, and counted toward their school's making AYP targets.

The following tables show the percent of students in each content, grade level, and sub-group that, while continuing to be non-proficient, were allowed to be counted as making adequate yearly growth.

Table 3—Percent of Students Achieving Growth

READING 2006-2007	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
All Students	4.92	3.97	3.41	5.27	5.17	4.56
Low SES	8.38	6.93	5.72	8.60	8.80	7.69
Students with Disabilities	16.18	14.38	11.32	15.36	16.43	14.78
English Language Learners	12.41	11.68	9.12	16.02	13.71	12.40
African-American	10.61	8.11	6.28	9.77	11.10	9.21
Asian	3.56	2.62	3.29	5.25	3.89	3.72
Hispanic	9.61	8.81	6.85	11.10	8.60	9.01
Native American	4.40	6.63	4.24	5.52	5.39	5.26
White	4.23	3.39	3.01	4.64	4.67	4.00

Source: Iowa Department of Education.

Table 4—Percent of Students Achieving Growth

READING 2007-2008	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
All Students	4.16	3.45	2.81	5.64	5.49	4.32
Low SES	7.19	6.28	4.87	9.80	9.21	7.43
Students with Disabilities	14.37	12.78	9.75	17.12	17.53	14.35
English Language Learners	8.91	10.45	8.61	17.60	16.33	11.84
African-American	9.21	8.14	6.52	12.72	11.33	9.54
Asian	4.27	1.98	2.75	4.99	4.62	3.69
Hispanic	6.58	7.70	6.05	12.91	12.53	9.04
Native American	5.92	5.85	4.59	8.14	8.84	6.62
White	3.62	2.82	2.34	4.72	4.70	3.66

Source: Iowa Department of Education

Table 5—Percent of Students Achieving Growth

MATHEMATICS 2006-2007	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
All Students	3.55	3.18	2.84	4.03	4.25	3.58
Low SES	5.81	5.28	4.56	7.02	7.91	6.11
Students with Disabilities	10.05	10.04	8.50	12.87	14.68	11.34
English Language Learners	8.11	7.33	6.12	11.56	15.42	9.22
African-American	8.11	6.91	6.05	10.68	10.19	8.41
Asian	2.53	3.44	2.63	2.30	3.12	2.80
Hispanic	6.57	5.58	4.68	8.02	9.31	6.79
Native American	4.52	7.73	4.24	7.14	7.84	6.38
White	3.05	2.76	2.52	3.41	3.62	3.09

Source: Iowa Department of Education

Table 6—Percent of Students Achieving Growth

MATHEMATICS 2007-2008	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
All Students	3.66	3.06	3.18	4.23	3.33	3.49
Low SES	6.05	5.63	5.56	7.46	5.99	6.13
Students with Disabilities	10.58	9.82	10.30	12.31	11.54	10.92
English Language Learners	8.32	8.82	9.80	10.56	10.95	9.50
African-American	9.57	9.07	7.91	11.82	8.47	9.37
Asian	3.39	2.55	2.45	2.80	2.23	2.69
Hispanic	6.17	6.32	6.81	7.46	7.12	6.75
Native American	6.47	5.88	6.15	10.00	8.84	7.42
White	3.06	2.39	2.63	3.56	2.79	2.89

Source: Iowa Department of Education

School Results—For 2006-2007, use of the growth model for AYP affected 139 total schools (51 schools in math and reading)

- In Math, 79 schools were helped to meet AYP, six schools did not meet AYP
- In Reading, 87 schools were helped to meet AYP, 18 schools did not meet AYP
- Overall, 128 schools (8.6 percent) were helped by the growth model in some way, to make AYP.

For 2007-2008, use of the growth model for AYP affected 141 total schools (four schools in math and reading)

- In Math, 36 schools were helped to meet AYP, 42 schools still did not meet AYP
- In Reading, 33 schools were helped to meet AYP, 61 schools still did not meet AYP
- Overall, 65 schools (4.4 percent) were helped by the growth model in some way, to make AYP.

The following tables show the number of schools that met AYP because of the contribution of students that met adequate yearly growth (AYG).

Table 7—Number of Schools Meeting AYP because of Growth 2006-2007

CONTENT/SUBGROUP	MET AYP AMO GROWTH	MET AYP SAFE HARBOR GROWTH	MET AYP BIENNIUM GROWTH	MET AYP TRIEN-NIUM GROWTH
Reading AMO All Students	3	13		
Reading AMO Low SES		33		
Reading AMO Students with Disabilities		87		
Reading AMO English Language Learner		16		
Reading AMO African-American		16		
Reading AMO Asian				
Reading AMO Hispanic		14		
Reading AMO Native American				
Reading AMO White	2	5		
Math AMO All Students	1	8		
Math AMO Low SES	1	21		
Math AMO Students with Disabilities	1	67		
Math AMO English Language Learner		8		
Math AMO African-American		17		
Math AMO Asian				
Math AMO Hispanic		6		
Math AMO Native American		1		
Math AMO White	1	1		

Source: Iowa Department of Education

Table 8—Number of Schools Meeting AYP because of Growth 2007-2008

CONTENT/SUBGROUP	MET AYP AMO GROWTH	MET AYP SAFE HARBOR GROWTH	MET AYP BIENNIUM GROWTH	MET AYP TRIEN-NIUM GROWTH
Reading AMO All Students		4		22
Reading AMO Low SES		21		5
Reading AMO Students with Disabilities		35		
Reading AMO English Language Learner		7		
Reading AMO African-American		8		
Reading AMO Asian				
Reading AMO Hispanic		5		
Reading AMO Native American				
Reading AMO White			1	16
Math AMO All Students	1	9		14
Math AMO Low SES		15		13
Math AMO Students with Disabilities		23		1
Math AMO English Language Learner		6		
Math AMO African-American		9		
Math AMO Asian				
Math AMO Hispanic		5		
Math AMO Native American				
Math AMO White		5		7

Source: Iowa Department of Education

District Results—For 2006-2007, use of the growth model for AYP affected 78 total districts (42 in both math and reading)
- In Math, 50 districts were helped to meet AYP, two districts did not meet AYP
- In Reading, 65 districts were helped to meet AYP, three districts did not meet AYP
- Overall, 77 districts (21.1 percent) were helped by the growth model, in some way, to make AYP.

For 2007-2008, use of the growth model for AYP affected 83 total districts
- In Math, five districts were helped to make AYP, the AYP decisions of 78 districts was not affected.
- In Reading, four districts were helped to make AYP, the AYP decisions of 79 districts was not affected.
- Overall, nine districts (2.4 percent) were helped by the growth model, in some way, to make AYP.

In 2007, 77 districts met AYP, in part due to use of the growth model, whereas in 2008, only 9 district met AYP, in part due to use of the growth model.

It is important to keep in mind that growth can help a district make AYP, to the extent that growth helps at least one level (elementary, middle, or high) meet AYP. Since, in order to miss AYP, a district must miss at all levels, if the growth of students helps at least one level meet AYP, the district meets AYP.

Value of the Growth Model—The value of the growth model is that it acknowledges the hard work that teachers invest to address the learning needs of students who are at various non-proficient levels within the achievement continuum. It is motivational for them to the extent that their efforts to assist lower performing students are finally recognized and rewarded, and their efforts to help students achieve are reflected by their students, schools, and districts making adequate yearly progress.

ADDENDUM

As a follow up, the following tables were prepared as a follow-up to the present article, in order to update growth results with data from the 2008-2009 school year.

Table A-1—Percent of Students Achieving Growth

MATH 2008-2009 ALL STUDENTS	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
Students Meeting Adequate Yearly Growth	1,245	535	203	318	328	2,629
Total Students Tested (Full Academic Year)	31,671	31,863	31,557	31,923	32,331	159,345

READING 2008-2009 ALL STUDENTS	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
Students Meeting Adequate Yearly Growth	1,578	1,310	1,084	1,914	1,776	7,662
Total Students Tested (Full Academic Year)	31,671	31,863	31,557	31,923	32,331	159,345

Source: Iowa Department of Education

Table A-2—Percent of Students Achieving Growth

READING 2008-2009	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
All Students	4.98%	4.11%	3.44%	6.00%	5.49%	4.81%
Low SES	7.54	6.37	5.13	8.77	8.55	7.25
Students with Disabilities	33.96	30.53	37.61	58.40	57.18	41.52
English Language Learners	11.77	12.54	8.94	12.36	11.95	11.51
African-American	8.74	8.49	6.11	11.54	10.14	8.91
Asian	4.01	4.38	1.68	3.60	4.71	3.67
Hispanic	8.94	8.05	5.85	9.10	8.18	8.02
Native American	7.77	6.40	4.04	9.09	8.42	7.12
White	4.60	3.67	3.76	6.45	5.88	4.87

Source: Iowa Department of Education

Table A-3—Percent of Students Achieving Growth

MATH 2008-2009	GRADE 4	GRADE 5	GRADE 6	GRADE 7	GRADE 8	TOTAL
All Students	3.93%	1.68%	0.64%	1.00%	1.01%	1.65%
Low SES	5.82	2.77	1.10	1.75	1.86	2.72
Students with Disabilities	10.47	4.69	2.01	3.39	3.45	4.74
English Language Learners	8.98	3.70	2.69	3.48	5.40	5.04
African-American	8.24	4.69	1.63	2.90	3.47	4.23
Asian	4.53	1.13	0.26	1.20	0.83	1.60
Hispanic	7.43	2.64	1.80	2.37	2.71	3.46
Native American	4.37	2.96	2.69	0.91	0.50	2.28
White	3.42	1.49	0.52	0.82	0.81	1.43

Source: Iowa Department of Education

Table A-4—Number of Schools Meeting AYP Because of Growth 2008-2009

CONTENT/SUBGROUP	MET AYP AMO GROWTH	MET AYP SAFE HARBOR GROWTH	MET AYP BIENNIUM GROWTH	MET AYP TRIENNIUM GROWTH
Reading AMO All Students	8	20	1	18
Reading AMO Low SES	4	35		4
Reading AMO Students with Disabilities		32		
Reading AMO English Language Learner		10		
Reading AMO African-American		9		
Reading AMO Asian				
Reading AMO Hispanic		8		
Reading AMO Native American			1	
Reading AMO White	4	9	2	8
Math AMO All Students	1	3	3	14
Math AMO Low SES		9		5
Math AMO Students with Disabilities		6		
Math AMO English Language Learner		5		
Math AMO African-American				
Math AMO Asian				
Math AMO Hispanic		4		1
Math AMO Native American				
Math AMO White		1		8

Source: Iowa Department of Education