

HB

23

Alaska State Legislature
House of Representatives

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Representative Harry Crawford
District 21

House Bill No. 23: Voluntary Class Size Reduction
Sectional Summary

Sec. 1 Short Title. This Act may be known as Time to Teach Act

Sec. 2 Adds a new section to (AS 14.17) to include funding for reducing class sizes. Schools would receive a class size reduction grant that would increase the base student allocation to \$8,000 for each student in grades kindergarten through three.

Only schools maintaining a class size of no more than 15 in grades kindergarten through three would be eligible for grants.

Schools must maintain this class level for a minimum of five years and academic progress and achievement must be studied by the school in comparison with classrooms that have not adopted the 15 student maximum.

Teachers placed in these classrooms must have a valid teaching certificate and at least one special education aide must be placed in a classroom with a student with a disability.

A student with a disability will count as two students.

A parent of a child may file a complaint in court to require a district to comply with and enforce the class size requirements of this Act.

Funding for reduction shall be treated the same as the states share of public school funding.

The location of the definition of "child with a disability" may be found in AS 14.30.350

The definition of "class size" is defined.

ANCHORAGE SCHOOL DISTRICT
ANCHORAGE, ALASKA

ASD MEMORANDUM #120 (2007-2008)

December 3, 2007

TO: SCHOOL BOARD
FROM OFFICE OF THE SUPERINTENDENT
SUBJECT: CLASS SIZE REPORT 2007-2008

ASD Goal: Establish and maintain a supportive and effective learning environment by providing safe, caring, barrier-free schools.

PERTINENT FACTS:

This report for the 2007-2008 school year is divided into the following categories: Elementary Education, Middle School Education, High School Education, Special Education, Bilingual Education, and Charter Schools. In addition, the administration has compiled information on class sizes in the alternative programs and the student-to-counselor ratio at the eight major high schools.

Each major department in the Instructional Division has provided detailed information on class sizes and, at the high school level, the counselor-to-student ratio.

ELEMENTARY EDUCATION

Class size information for the elementary schools is summarized in Attachment A. This information is based on enrollment data on September 28, 2007. Overall, class sizes in the various categories are within one percent of last year's percentages, with the exception of the 27-30 category, which decreased by two percent (from 14 percent in 2006-2007 to 12 percent in 2007-2008).

A comparison chart of the last eight years for classes of 30 and higher is displayed in Attachment B. This number increased slightly in 2007-08. Teacher assistant time has been allocated to assist in large classes.

Attachment C compares kindergarten through third grade and fourth through eighth grade class sizes for the past three years, 2005-2006, 2006-2007 and 2007-

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: HB 23
 Bill Version: _____
 () Publish Date: _____

Identifier (file name): HB23-EED-ESS-02-20-09 Dept. Affected: Education & Early Development
 Title: "An Act establishing a grant program to support voluntary class size reductions." RDU: K-12 Support
 Sponsor: Representatives Crawford & Gara Component: Foundation Program
 Requester: Education, Finance Component Number: 141

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information						
		FY 2010	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
OPERATING EXPENDITURES								
Personal Services								
Travel								
Contractual								
Supplies								
Equipment								
Land & Structures								
Grants & Claims		118,653.8	0.0	7,476.3	7,549.0	7,616.6	7,616.6	7,616.6
Miscellaneous								
TOTAL OPERATING		118,653.8	0.0	7,476.3	7,549.0	7,616.6	7,616.6	7,616.6

CAPITAL EXPENDITURES								
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CHANGE IN REVENUES ()								
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FUND SOURCE (Thousands of Dollars)

	FY 2010	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
1002 Federal Receipts							
1003 GF Match							
1004 GF	118,653.8	0.0	7,476.3	7,549.0	7,616.6	7,616.6	7,616.6
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	118,653.8	0.0	7,476.3	7,549.0	7,616.6	7,616.6	7,616.6

Estimate of any current year (FY2009) cost: _____

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: (Attach a separate page if necessary)

This bill establishes an \$8,000 grant applied to the base student allocation in the foundation formula; for those District's schools that can reduce the class size of their Kindergarten through 3rd grade to a ratio of 15 students to one certified teacher. A student with special needs as established in AS14.30.350, would count as two students. Annual increases to this grant will be base on the Consumer Price Index for all urban consumers for the Anchorage metropolitan area. January 2003 represents the base of the index. The department used a five year CPI-U average to project out the increases to this grant, at 3.14.

To qualify, the district enters into an agreement with the school on a form that has been pre-approved by the Department of Education & Early Development. This agreement would cover a minimum of five years and would track the academic progress of those students.

Prepared by: Eddy Jeans, Director
 Division: School Finance
 Approved by: Larry LeDoux, Commissioner

Phone 465-8679
 Date/Time 2/20/09 12:00 AM
 Date 2/20/2009

GRANT - BSA
\$8000 - \$5580 = \$2420

DISTRICT	TOTAL K-	Approx.	FY10 Cost	Adjusted	Adjusted	Total cost of
	3rd Grade	School Size		for Cost	for 1.20	
	less corresp	Adjustment	Factor	Factor	SPED	Grant
Alaska Gateway School District	100.75	97.73	1.481	144.74	173.69	420,330
Aleutian Region School District	12.00	11.64	1.864	21.7	26.04	63,017
Aleutians East Borough School District	88.50	85.85	1.778	152.64	183.17	443,271
Anchorage School District	14,876.24	14429.95	1.000	14429.95	17315.94	41,904,575
Annette Island School District	87.00	84.39	1.216	102.62	123.14	297,999
Bering Strait School District	569.45	552.37	1.821	1005.87	1207.04	2,921,037
Bristol Bay Borough School District	38.50	37.35	1.397	52.18	62.62	151,540
Chatham School District	44.50	43.17	1.405	60.65	72.78	176,128
Chugach School District	20.00	19.4	1.420	27.55	33.06	80,005
Copper River School District	123.95	120.23	1.264	151.97	182.36	441,311
Cordova City School District	102.45	99.38	1.182	117.47	140.96	341,123
Craig City School District	100.00	97	1.133	109.9	131.88	319,150
Delta-Greely School District	262.04	254.18	1.191	302.73	363.28	879,138
Denali Borough School District	65.95	63.97	1.326	84.82	101.78	246,308
Dillingham City School District	154.55	149.91	1.312	196.68	236.02	571,168
Fairbanks North Star Borough School District	4,607.73	4469.49	1.059	4733.19	5679.83	13,745,189
Galena City School District	36.60	35.5	1.376	48.85	58.62	141,860
Haines Borough School District	83.65	81.14	1.128	91.53	109.84	265,813
Hoonah City School District	34.25	33.22	1.270	42.19	50.63	122,525
Hydaburg City School District	21.18	20.54	1.348	27.69	33.23	80,417
Iditarod Area School District	61.10	59.27	1.705	101.06	121.27	293,473
Juneau Borough School District	1,435.40	1392.34	1.093	1521.83	1826.2	4,419,404
Kake City School District	29.55	28.66	1.296	37.14	44.57	107,859
Kashunamiut School District	103.85	100.73	1.533	154.42	185.3	448,426
Kenai Peninsula Borough School District	2,404.29	2332.16	1.109	2586.37	3103.64	7,510,809
Ketchikan Gateway Borough School District	619.95	601.35	1.106	665.09	798.11	1,931,426
Klawock City School District	35.10	34.05	1.196	40.72	48.86	118,241
Kodiak Island Borough School District	727.99	706.15	1.216	858.68	1030.42	2,493,616
Kuspuk School District	109.35	106.07	1.622	172.05	206.46	499,633
Lake and Peninsula Borough School District	91.83	89.07	1.831	163.09	195.71	473,618
Lower Kuskokwim School District	1,525.65	1479.88	1.599	2366.33	2839.6	6,871,832
Lower Yukon School District	693.65	672.84	1.703	1145.85	1375.02	3,327,548
Matanuska-Susitna Borough School District	4,534.31	4398.28	1.048	4609.4	5531.28	13,385,698
Nenana City School District	42.80	41.52	1.313	54.52	65.42	158,316
Nome Public Schools	223.51	216.81	1.402	303.97	364.76	882,719
North Slope Borough School District	525.10	509.35	1.684	857.75	1029.3	2,490,906
Northwest Arctic Borough School District	593.00	575.21	1.720	989.36	1187.23	2,873,097
Pelican City School District	4.00	3.88	1.408	5.46	6.55	15,851
Petersburg City School District	149.40	144.92	1.153	167.09	200.51	485,234
Pribilof School District	35.90	34.82	1.589	55.33	66.4	160,688
Saint Marys School District	49.40	47.92	1.522	72.93	87.52	211,798
Sitka School District	418.18	405.63	1.123	455.52	546.62	1,322,820
Skagway School District	27.75	26.92	1.163	31.31	37.57	90,919
Southeast Island School District	44.45	43.12	1.299	56.01	67.21	162,648
Southwest Region School District	204.25	198.12	1.587	314.42	377.3	913,066
Tanana City School District	13.45	13.05	1.677	21.88	26.26	63,549
Tnalaska City School District	132.25	128.28	1.368	175.49	210.59	509,628
Valdez City School District	198.20	192.25	1.143	219.74	263.69	638,130
Wrangell Public School District	78.73	76.36	1.100	84	100.8	243,936
Yakutat School District	30.00	29.1	1.275	37.1	44.52	107,738
Yukon Flats School District	95.80	92.93	1.948	181.03	217.24	525,721
Yukon-Koyukuk School District	91.35	88.61	1.711	151.61	181.93	440,271
Yupit School District	188.25	182.6	1.628	297.27	356.72	863,262
TOTAL	36,947.05	35,838.64		40,858.74	49,030.49	118,653,784

NOTE: Does not take into account those K-3 students with disabilities.

GRANT - BSA
 \$2571 - \$2420 = \$151

<u>DISTRICT</u>	<u>TOTAL K-3rd Grade less corresp</u>	<u>Approx. School Size Adjustment at .97</u>	<u>FY11 Cost Factor</u>	<u>Adjusted for Cost Factor</u>	<u>Adjusted for 1.20 SPED</u>	<u>Total cost of Grant increase based on CPI-U</u>
Alaska Gateway School District	100.75	97.73	1.519	148.45	178.14	26,899
Aleutian Region School District	12.00	11.64	1.890	22	26.4	3,986
Aleutians East Borough School District	88.50	85.85	1.849	158.74	190.49	28,764
Anchorage School District	14,876.24	14429.95	1.000	14429.95	17315.94	2,614,707
Annette Island School District	87.00	84.39	1.257	106.08	127.3	19,222
Bering Strait School District	569.45	552.37	1.880	1038.46	1246.15	188,169
Bristol Bay Borough School District	38.50	37.35	1.424	53.19	63.83	9,638
Chatham School District	44.50	43.17	1.462	63.11	75.73	11,435
Chugach School District	20.00	19.4	1.445	28.03	33.64	5,080
Copper River School District	123.95	120.23	1.282	154.13	184.96	27,929
Cordova City School District	102.45	99.38	1.199	119.16	142.99	21,591
Craig City School District	100.00	97	1.158	112.33	134.8	20,355
Delta-Greely School District	262.04	254.18	1.208	307.05	368.46	55,637
Denali Borough School District	65.95	63.97	1.329	85.02	102.02	15,405
Dillingham City School District	154.55	149.91	1.324	198.48	238.18	35,965
Fairbanks North Star Borough School District	4,607.73	4469.49	1.063	4751.07	5701.28	860,893
Galena City School District	36.60	35.5	1.382	49.06	58.87	8,889
Haines Borough School District	83.65	81.14	1.152	93.47	112.16	16,936
Hoonah City School District	34.25	33.22	1.313	43.62	52.34	7,903
Hydaburg City School District	21.18	20.54	1.401	28.78	34.54	5,216
Iditarod Area School District	61.10	59.27	1.752	103.84	124.61	18,816
Juneau Borough School District	1,435.40	1392.34	1.111	1546.89	1856.27	280,297
Kake City School District	29.55	28.66	1.350	38.69	46.43	7,011
Kashunamiut School District	103.85	100.73	1.562	157.34	188.81	28,510
Kenai Peninsula Borough School District	2,404.29	2332.16	1.130	2635.34	3162.41	477,524
Ketchikan Gateway Borough School District	619.95	601.35	1.127	677.72	813.26	122,802
Klawock City School District	35.10	34.05	1.232	41.95	50.34	7,601
Kodiak Island Borough School District	727.99	706.15	1.241	876.33	1051.6	158,792
Kuspuk School District	109.35	106.07	1.660	176.08	211.3	31,906
Lake and Peninsula Borough School District	91.83	89.07	1.886	167.99	201.59	30,440
Lower Kuskokwim School District	1,525.65	1479.88	1.621	2398.89	2878.67	434,679
Lower Yukon School District	693.65	672.84	1.756	1181.51	1417.81	214,089
Matanuska-Susitna Borough School District	4,534.31	4398.28	1.056	4644.58	5573.5	841,599
Nenana City School District	42.80	41.52	1.322	54.89	65.87	9,946
Nome Public Schools	223.51	216.81	1.419	307.65	369.18	55,746
North Slope Borough School District	525.10	509.35	1.720	876.08	1051.3	158,746
Northwest Arctic Borough School District	593.00	575.21	1.754	1008.92	1210.7	182,816
Pelican City School District	4.00	3.88	1.432	5.56	6.67	1,007
Petersburg City School District	149.40	144.92	1.184	171.59	205.91	31,092
Pribilof School District	35.90	34.82	1.623	56.51	67.81	10,239
Saint Marys School District	49.40	47.92	1.556	74.56	89.47	13,510
Sitka School District	418.18	405.63	1.148	465.66	558.79	84,377
Skagway School District	27.75	26.92	1.167	31.42	37.7	5,693
Southeast Island School District	44.45	43.12	1.334	57.52	69.02	10,422
Southwest Region School District	204.25	198.12	1.620	320.95	385.14	58,156
Tanana City School District	13.45	13.05	1.713	22.35	26.82	4,050
Tanalaska City School District	132.25	128.28	1.393	178.69	214.43	32,379
Valdez City School District	198.20	192.25	1.153	221.66	265.99	40,164
Vrangell Public School District	78.73	76.36	1.120	85.52	102.62	15,496
Wakutat School District	30.00	29.1	1.321	38.44	46.13	6,966
Yukon Flats School District	95.80	92.93	2.004	186.23	223.48	33,745
Yukon-Koyukuk School District	91.35	88.61	1.753	155.33	186.4	28,146
Yupik School District	188.25	182.6	1.660	303.12	363.74	54,925
TOTAL	36,947.05	35,838.64		41,259.98	49,511.99	7,476,306

OTE: Does not take into account those K-3 students with disabilities.

GRANT - BSA
 \$151

<u>DISTRICT</u>	<u>TOTAL K-3rd Grade less corresp</u>	<u>Approx. School Size Adjustment at .97</u>	<u>FY12 Cost Factor</u>	<u>Adjusted for Cost Factor</u>	<u>Adjusted for 1.20 SPED</u>	<u>Total cost of Grant increase based on CPI-U</u>
Alaska Gateway School District	100.75	97.73	1.557	152.17	182.6	27,573
Aleutian Region School District	12.00	11.64	1.916	22.3	26.76	4,041
Aleutians East Borough School District	88.50	85.85	1.920	164.83	197.8	29,868
Anchorage School District	14,876.24	14429.95	1.000	14429.95	17315.94	2,614,707
Annette Island School District	87.00	84.39	1.298	109.54	131.45	19,849
Bering Strait School District	569.45	552.37	1.939	1071.05	1285.26	194,074
Bristol Bay Borough School District	38.50	37.35	1.451	54.19	65.03	9,820
Chatham School District	44.50	43.17	1.519	65.58	78.7	11,884
Chugach School District	20.00	19.4	1.470	28.52	34.22	5,167
Copper River School District	123.95	120.23	1.300	156.3	187.56	28,322
Cordova City School District	102.45	99.38	1.216	120.85	145.02	21,898
Craig City School District	100.00	97	1.183	114.75	137.7	20,793
Delta-Greely School District	262.04	254.18	1.225	311.37	373.64	56,420
Denali Borough School District	65.95	63.97	1.332	85.21	102.25	15,440
Dillingham City School District	154.55	149.91	1.336	200.28	240.34	36,291
Fairbanks North Star Borough School District	4,607.73	4469.49	1.067	4768.95	5722.74	864,134
Galena City School District	36.60	35.5	1.388	49.27	59.12	8,927
Haines Borough School District	83.65	81.14	1.176	95.42	114.5	17,290
Hoonah City School District	34.25	33.22	1.356	45.05	54.06	8,163
Hydaburg City School District	21.18	20.54	1.454	29.87	35.84	5,412
Iditarod Area School District	61.10	59.27	1.799	106.63	127.96	19,322
Juneau Borough School District	1,435.40	1392.34	1.129	1571.95	1886.34	284,837
Kake City School District	29.55	28.66	1.404	40.24	48.29	7,292
Kashunamiut School District	103.85	100.73	1.591	160.26	192.31	29,039
Kenai Peninsula Borough School District	2,404.29	2332.16	1.151	2684.32	3221.18	486,398
Ketchikan Gateway Borough School District	619.95	601.35	1.148	690.35	828.42	125,091
Klawock City School District	35.10	34.05	1.268	43.18	51.82	7,825
Kodiak Island Borough School District	727.99	706.15	1.266	893.99	1072.79	161,991
Kuspuk School District	109.35	106.07	1.698	180.11	216.13	32,636
Lake and Peninsula Borough School District	91.83	89.07	1.941	172.88	207.46	31,326
Lower Kuskokwim School District	1,525.65	1479.88	1.643	2431.44	2917.73	440,577
Lower Yukon School District	693.65	672.84	1.809	1217.17	1460.6	220,551
Vatanuska-Susitna Borough School District	4,534.31	4398.28	1.064	4679.77	5615.72	847,974
Venana City School District	42.80	41.52	1.331	55.26	66.31	10,013
Nome Public Schools	223.51	216.81	1.436	311.34	373.61	56,415
North Slope Borough School District	525.10	509.35	1.756	894.42	1073.3	162,068
Northwest Arctic Borough School District	593.00	575.21	1.788	1028.48	1234.18	186,361
Pelican City School District	4.00	3.88	1.456	5.65	6.78	1,024
Petersburg City School District	149.40	144.92	1.215	176.08	211.3	31,906
Pribilof School District	35.90	34.82	1.657	57.7	69.24	10,455
Saint Marys School District	49.40	47.92	1.590	76.19	91.43	13,806
Sitka School District	418.18	405.63	1.173	475.8	570.96	86,215
Skagway School District	27.75	26.92	1.171	31.52	37.82	5,711
Southeast Island School District	44.45	43.12	1.369	59.03	70.84	10,697
Southwest Region School District	204.25	198.12	1.653	327.49	392.99	59,341
Tanana City School District	13.45	13.05	1.749	22.82	27.38	4,134
Tinalaska City School District	132.25	128.28	1.418	181.9	218.28	32,960
Valdez City School District	198.20	192.25	1.163	223.59	268.31	40,515
Vrangell Public School District	78.73	76.36	1.140	87.05	104.46	15,773
Wakutat School District	30.00	29.1	1.367	39.78	47.74	7,209
Yukon Flats School District	95.80	92.93	2.060	191.44	229.73	34,689
Yukon-Koyukuk School District	91.35	88.61	1.795	159.05	190.86	28,820
Yupit School District	188.25	182.6	1.692	308.96	370.75	55,983
TOTAL	36,947.05	35,838.64		41,661.29	49,993.55	7,549,027

OTE: Does not take into account those K-3 students with disabilities.

GRANT - BSA
 \$151

<u>DISTRICT</u>	<u>TOTAL K-3rd Grade less corresp</u>	<u>Approx. School Size Adjustment at .97</u>	<u>FY13-FY15 Cost Factor</u>	<u>Adjusted for Cost Factor</u>	<u>Adjusted for 1.20 SPED</u>	<u>Total cost of Grant increase based on CPI-U</u>
Alaska Gateway School District	100.75	97.73	1.594	155.78	186.94	28,228
Aleutian Region School District	12.00	11.64	1.939	22.57	27.08	4,089
Aleutians East Borough School District	88.50	85.85	1.991	170.93	205.12	30,973
Anchorage School District	14,876.24	14429.95	1.000	14429.95	17315.94	2,614,707
Annette Island School District	87.00	84.39	1.338	112.91	135.49	20,459
Bering Strait School District	569.45	552.37	1.998	1103.64	1324.37	199,980
Bristol Bay Borough School District	38.50	37.35	1.478	55.2	66.24	10,002
Chatham School District	44.50	43.17	1.576	68.04	81.65	12,329
Chugach School District	20.00	19.4	1.496	29.02	34.82	5,258
Copper River School District	123.95	120.23	1.316	158.22	189.86	28,669
Cordova City School District	102.45	99.38	1.234	122.63	147.16	22,221
Craig City School District	100.00	97	1.206	116.98	140.38	21,197
Delta-Greely School District	262.04	254.18	1.241	315.44	378.53	57,158
Denali Borough School District	65.95	63.97	1.332	85.21	102.25	15,440
Dillingham City School District	154.55	149.91	1.346	201.78	242.14	36,563
Fairbanks North Star Borough School District	4,607.73	4469.49	1.070	4782.35	5738.82	866,562
Galena City School District	36.60	35.5	1.391	49.38	59.26	8,948
Haines Borough School District	83.65	81.14	1.200	97.37	116.84	17,643
Hoonah City School District	34.25	33.22	1.399	46.47	55.76	8,420
Hydaburg City School District	21.18	20.54	1.504	30.89	37.07	5,598
Iditarod Area School District	61.10	59.27	1.846	109.41	131.29	19,825
Juneau Borough School District	1,435.40	1392.34	1.145	1594.23	1913.08	288,875
Kake City School District	29.55	28.66	1.459	41.81	50.17	7,576
Kashunamiut School District	103.85	100.73	1.619	163.08	195.7	29,551
Kenai Peninsula Borough School District	2,404.29	2332.16	1.171	2730.96	3277.15	494,850
Ketchikan Gateway Borough School District	619.95	601.35	1.170	703.58	844.3	127,489
Klawock City School District	35.10	34.05	1.302	44.33	53.2	8,033
Kodiak Island Borough School District	727.99	706.15	1.289	910.23	1092.28	164,934
Kuspuk School District	109.35	106.07	1.734	183.93	220.72	33,329
Lake and Peninsula Borough School District	91.83	89.07	1.994	177.61	213.13	32,183
Lower Kuskokwim School District	1,525.65	1479.88	1.663	2461.04	2953.25	445,941
Lower Yukon School District	693.65	672.84	1.861	1252.16	1502.59	226,891
Matanuska-Susitna Borough School District	4,534.31	4398.28	1.070	4706.16	5647.39	852,756
Nenana City School District	42.80	41.52	1.338	55.55	66.66	10,066
Nome Public Schools	223.51	216.81	1.450	314.37	377.24	56,963
North Slope Borough School District	525.10	509.35	1.791	912.25	1094.7	165,300
Northwest Arctic Borough School District	593.00	575.21	1.823	1048.61	1258.33	190,008
Pelican City School District	4.00	3.88	1.477	5.73	6.88	1,039
Petersburg City School District	149.40	144.92	1.244	180.28	216.34	32,667
Pribilof School District	35.90	34.82	1.691	58.88	70.66	10,670
Saint Marys School District	49.40	47.92	1.624	77.82	93.38	14,100
Sitka School District	418.18	405.63	1.195	484.73	581.68	87,834
Skagway School District	27.75	26.92	1.174	31.6	37.92	5,726
Southeast Island School District	44.45	43.12	1.403	60.5	72.6	10,963
Southwest Region School District	204.25	198.12	1.685	333.83	400.6	60,491
Tanana City School District	13.45	13.05	1.786	23.31	27.97	4,223
Tinalaska City School District	132.25	128.28	1.441	184.85	221.82	33,495
Talkeetna City School District	198.20	192.25	1.170	224.93	269.92	40,758
Tongue River Public School District	78.73	76.36	1.159	88.5	106.2	16,036
Tukutuk School District	30.00	29.1	1.412	41.09	49.31	7,446
Tukon Flats School District	95.80	92.93	2.116	196.64	235.97	35,631
Tukon-Koyukuk School District	91.35	88.61	1.835	162.6	195.12	29,463
Uptiit School District	188.25	182.6	1.723	314.62	377.54	57,009
TOTAL	36,947.05	35,838.64		42,033.98	50,440.81	7,616,565

OTE: Does not take into account those K-3 students with disabilities.

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Representative Harry Crawford
District 21

SPONSOR STATEMENT: HOUSE BILL 23

House Bill No. 23 would establish a grant program to support the voluntary participation of schools to reduce their classes to 15 students per teacher for the grades of kindergarten through third. This act may be known as the Time to Teach Act and has benefits for children, schools, teachers, and society as a whole.

Research conducted by Project STAR, a Tennessee based study, and the SAGE Program in Wisconsin both used the class size of 15 students and mapped those students' achievements using standard tests over five year periods starting in kindergarten and continuing through fourth grade. Students test scores rose in nearly every area compared to students in larger classroom settings. Teachers had an easier time teaching students, and maintained more control which led to less disciplinary action and disruption.

Class size reduction in the two studies mentioned above also led to higher test scores later in school and much higher rates of high school completion and a greater likelihood to pursue collegiate careers. The trends exposed by these studies had a greater impact on minority students as they benefitted greatly from the increased teacher availability and more direct student-teacher interaction.

The Time to Teach Act would provide the opportunity for schools to decide for themselves how, and when, they would implement the changes in class sizes. The flexibility allowed under this act will encourage strong local community support and involvement and will encourage custom tailored plans for each school. In addition to the class size reductions the Time to Teach Act will require schools to study the program over a five year period in order to determine its effectiveness and practicality both for the schools themselves and for the state of Alaska.

ANCHORAGE SCHOOL DISTRICT
ANCHORAGE, ALASKA

ASD MEMORANDUM #120 (2007-2008)

December 3, 2007

TO: SCHOOL BOARD
FROM OFFICE OF THE SUPERINTENDENT
SUBJECT: CLASS SIZE REPORT 2007-2008

ASD Goal: Establish and maintain a supportive and effective learning environment by providing safe, caring, barrier-free schools.

PERTINENT FACTS:

This report for the 2007-2008 school year is divided into the following categories: Elementary Education, Middle School Education, High School Education, Special Education, Bilingual Education, and Charter Schools. In addition, the administration has compiled information on class sizes in the alternative programs and the student-to-counselor ratio at the eight major high schools.

Each major department in the Instructional Division has provided detailed information on class sizes and, at the high school level, the counselor-to-student ratio.

ELEMENTARY EDUCATION

Class size information for the elementary schools is summarized in Attachment A. This information is based on enrollment data on September 28, 2007. Overall, class sizes in the various categories are within one percent of last year's percentages, with the exception of the 27-30 category, which decreased by two percent (from 14 percent in 2006-2007 to 12 percent in 2007-2008).

A comparison chart of the last eight years for classes of 30 and higher is displayed in Attachment B. This number increased slightly in 2007-08. Teacher assistant time has been allocated to assist in large classes.

Attachment C compares kindergarten through third grade and fourth through eighth grade class sizes for the past three years, 2005-2006, 2006-2007 and 2007-

08. In kindergarten through third grade, class sizes increased in the under 18 and 18-20 categories, decreased in the 21-23 category and remained stable in the 24-26 and 27-30 categories. In the fourth through eighth grades, the number of classes in the under 18 category decreased slightly, the percentage of classes in the 18-20 category decreased, the number of classes in the 21-23 category increased by 2 percent and in the 24-26 category there was an increase of 6 percent. Concurrently, the percentage of classes in the 27-30 category decreased by 6 percent. Classes in the 31-32 range increased slightly.

The staffing divisors are 20.50 in kindergarten, 21 in first grade, 24 in second and third grades and 27 in fourth, fifth and sixth grades. The targeted ratio is 18:1 in kindergarten and first grades with class size reduction positions.

Attachment D is a summary of the information presented in Attachment C. Attachment E contains part-time student data.

Attachment F illustrates the positive effect of class size reduction positions in kindergarten and first grades across the elementary division.

Overall in the elementary division class sizes are very close to optimal in terms of budgeted staffing ratios. The forty-five class size reduction positions funded through Title IIA of the NCLB grant have provided significantly lower class sizes in many kindergarten and first grade classrooms across the elementary schools. Additionally, many Title I schools utilize Title I funds to lower class size.

MIDDLE SCHOOL EDUCATION

On September 28, 2007, the middle school division noted slight changes across all class size reporting categories. Percentage changes fell between 0.14 percent and 2.81 percent with the greatest changes reported for class sizes of 21-25 and 31-35. A four-year comparison of class sizes across the mid-level division is attached. The average core class size remains constant from last year to this year at 26 students. Attachment G shows a class size analysis for each of the middle schools.

Across the division, schools reported a total of 114 classes with 36 or more students. The majority of these classes are physical education and music/art showing 73 and 25 classes respectively.

Since September 28, three of the nine core classes with over 36 students have been decreased to below 35 students and 22 of the 256 core classes with 31-35 have been reduced to below thirty.

MIDDLE LEVEL CLASS SIZE FREQUENCY

PART I - 2004-2005 Class Size Frequency					
Class Size	1-20	21-25	26-30	31-35	36+
Number of All Classes	179	287	546	393	114
Percentage of All Classes	11.80%	18.90%	35.90%	25.90%	7.50%

PART II - 2005-2006 Class Size Frequency					
Class Size	1-20	21-25	26-30	31-35	36+
Number of All Classes	343	262	489	281	114
Percentage of All Classes	23.00%	17.60%	32.80%	18.90%	7.60%

PART III - 2006-2007 Class Size Frequency					
Class Size	1-20	21-25	26-30	31-35	36+
Number of All Classes	254	343	511	304	133
Percentage / All Classes	16.44%	22.20%	33.07%	19.68%	8.61%

PART IV - 2007-2008 Class Size Frequency					
Class Size	1-20	21-25	26-30	31-35	36+
Number of All Classes	265	310	557	352	114
Percentage of All Classes	16.58%	19.39%	34.85%	22.02%	7.13%

AVERAGE CLASS SIZE BY ACADEMIC AREA

<i>Class size by area for a four-year period</i>				
SUBJECT	AVERAGE	AVERAGE	AVERAGE	AVERAGE
	2004-2005	2005-2006	2006-2007	2007-2008
LANGUAGE ARTS	24.57	20.79	23.95	24.70
MATH	25.97	23.62	24.41	25.44
SCIENCE	28.23	27.56	27.71	27.59
SOCIAL STUDIES	27.07	25.80	26.54	25.89
WORLD LANGUAGES	28.06	25.72	24.44	24.21
MUSIC/ART	31.83	29.66	29.17	30.55
PE	42.14	42.74	43.13	40.18
CAREER TECH.	27.95	24.59	26.53	24.85

Polaris K-12 # of Classes					
	1-20	21-25	26-30	31-35	36+
	35	44	22	1	0
	28.92%	36.36%	18.18%	.82%	
TEACHING AREA	# OF SECTIONS	# OF STUDENTS	AVERAGE CLASS SIZE		
Language					
Arts	13	300	24		
Math	13	217	17		
Science	14	281	21		
Soc. Studies	17	338	20		
For.					
Language	3	62	21		
Music	15	341	24		
PE	17	387	23		
Art	12	292	24		
Advisory	13	277	21		
Study Skills	4	101	25		

PART-TIME STUDENTS:

Currently, there are two part-time students attending one class each in the nine standard middle schools. There are no part-time students enrolled at Polaris K-12 this school year.

SCHOOL NAME	NUMBER OF STUDENTS	NUMBER AT .25%	NUMBER AT .50%	NUMBER AT .75%	NUMBER AT OTHER %
Central	0	0	0	0	0
Clark	0	0	0	0	0
Goldenview	0	0	0	0	0
Gruening	0	2	0	0	0
Hanshew	0	0	0	0	0
Mears	0	0	0	0	0
Mirror Lake	0	0	0	0	0
Romig	0	0	0	0	0
Wendler	0	0	0	0	0
Polaris	0	0	0	0	0
TOTALS	0	2	0	0	0

HIGH SCHOOL EDUCATION

In general, utilization of allocated teachers and the development of the master class schedules are local school decisions. Some items, such as holding ninth and tenth grade core classes to a smaller size and providing immediate remediation for struggling students are directives, which all schools are expected to follow. Additionally, schools are instructed to minimize the number of classes under 20 students and those over 35 students. Attachment H shows a class size analysis for each of the high schools and alternative schools.

On September 28, 2007, the high schools reported 564 classes under 20, a decrease of 21 from last school year; and 126 classes over 36 students, an increase of seven sections as compared to the 2006 total. The majority of the sections below 20 students are in math and language arts classes, a direct result of the prescriptive remediation efforts. Classes of 36 or more are generally physical education (77 percent), with a lesser number in music (15 percent). Attachment X contains District wide high school average class size as reported by content area. School-to-school variations are due to student interest and school-based scheduling decisions.

Alternative Schools

Class sizes at AVAIL, Benny Benson, COHO Continuation, Crossroads, King Career Center, MYC and SAVE are all under 30. Steller Secondary has three sections above 30 all others are below 30. Polaris K-12 class sizes are provided in the middle school section.

High School Counselors

Every high school student has been assigned a certificated counselor according to his or her alpha group or according to their academic house. Indian Education community counselors (non-certificated), career guides (non-certificated), and career resource counselors (non-certificated), continue to support qualified students and families as they interact with alpha counselors. Certificated bilingual counselors are assigned to four of the high schools, based upon their specific populations. The Partners for Success program, funded by the Cook Inlet Tribal Council, provides a counselor (non-certificated), and a family advocate (non-certificated), at East and Bartlett High schools.

Average and Range of Counselor Loads by School

<u>School</u>	<u>Average Number of Counselees</u>	<u>Range</u>	<u>Number of Counselors</u>
Bartlett	211	190-298	8.0**
Chugiak	270	240-301	5.0
Dimond	260	240-300	7.0
East	274	248-340	8.0**
Eagle River	432	432	2.0
Service	269	225-311	7.0*
South	354	308-380	5.0
West	264	232-353	7.0**

* Department heads and bilingual counselors are often assigned fewer counselees.

** Number may include certificated bilingual, Partners for Success and gifted counselors.

High School Part-time Students

Seventeen part-time students are currently enrolled in the high schools while also attending a private or correspondence school, UAA, or being home-schooled. Part-time students requested placement in fine arts, some upper level math and science classes, the vocational programs at KCC, and JROTC. No part-time student was refused placement and all received full consideration in selection of classes.

SPECIAL EDUCATION

The Anchorage School District provides comprehensive educational services through the Special Education Department to all children who experience disabilities and have additional needs beyond those which can generally be met by the regular classroom program. Special education services are provided in all Anchorage School District schools, including alternative schools, optional schools, charter schools and special school programs. Services are designed by an IEP team in the least restrictive environment, including the parent as a contributing member. IDEA requires that a continuum of special education placements is available which includes: support in the regular classroom supervised by special education personnel, direct service by special education personnel in the regular classroom, pull-out time from the regular classroom with service from special education personnel self-contained special education classrooms, a special school, home or hospital instruction or instruction in an institution. Since all components of the continuum cannot be provided in every neighborhood school, the IEP teams make every effort to provide the appropriate services for a student in a setting as close to his/her normal classroom as

possible. In addition to providing the necessary special education services, the IEP team may determine a need for related services. Related services may include speech therapy, occupational therapy, physical therapy, counseling, specialized nursing services, audiology services and transportation.

Early Childhood Special Education (Preschool)

Preschool SpEd Program	Teacher/Student Staffing Ratio	Range of Current Enrollment	Average PTR	Number of Classes
<i>Itinerant Preschool (CARE)</i>	1 Teacher: 25 L1	5-17 per team	10.75:1	4 Teams
<i>Communication Classes (2-Day)</i>	1 Teacher: 8 L1 x 4 sessions = 32 students	4-5 students - per session	18.5:1	8 sessions
<i>Self-Contained Classes (4-Day)</i>	1 Teacher: 8 L2/L3 x 2 sessions = 16 students	5-7 students per session	10:1	26.5 teachers/ 53 sessions
Autism (Pre-K/K)	1 Teacher: 6 L3 (Pre-K & K) (full day)	3-6 students per class (Pre-K/K)	4.3:1 (Pre-K/K)	6 full day classes (Pre-K/K)

Key Points:

- Staffing ratio for preschool is based on am/pm sessions unless otherwise noted as full day i.e. one teacher for two sessions of eight students each
- CARE teams provide special education services in community settings
- Preschool autism classes provide services for preschool and kindergarten students; kindergarten students are included in above numbers to accurately reflect teacher caseloads
- Preschool special education services begin at age three rather than by school year; eligible students are enrolled throughout the school year
- Ninety-two students are scheduled for preschool assessments are scheduled between October 26 and December 20, 2007

Elementary Special Education

Elementary SpEd Programs	Teacher/Student Staffing Ratio	Range of Current Enrollment	Average PTR	Number of Classes
Resource (K-6)	1 Teacher:20 L1 1 Teacher:12 L2 1 Teacher: 8 L3		17.4:1	136 teachers: (11 gen. ed, 125 special ed)
<i>Extended</i>	1 Teacher: 10	4 - 9 students	7.6:1	10 classes

<i>Resource (K - 6)</i>	L2/L3			
Intensive Needs	1 Teacher: 8 L3	4 - 7 students	6.1:1	20 classes
Autism (grades 1-6)	1 Teacher: 6 L3	3 - 6 students	4.2:1	13 classes

Key Points:

- The number of students requiring special education services and supports for more than 50% of the school day continues to increase.
- Extended Resource, Autism, and Intensive Needs Classes are designed to provide full-day support required by a student's IEP.
- The number of students needing specialized autism classes continues to increase.

Mt. Iliamna School

Mt. Iliamna Program Pre-K - 4th Grade	Teacher/Student Staffing Ratio	Range of Current Enrollment	Average PTR	Number of Classes
<i>Behavioral Support Classes K - 4</i>	1 Teacher: 10 L3 students	5 - 9 per class	6.7:1	7
<i>Learning Centers K - 4</i>	1 Teacher: 6 L3 students	6 - 7 per class	6.2:1	4

Key Points:

- Behavioral support classes provide small group instruction; while learning center classes provide highly individualized support to assist students in development of social and behavioral skills.
- Mt. Iliamna supports children with social/behavioral needs from Kindergarten through fourth grade (preschool services have been relocated)
- As of October 26, 2007, the distribution by grade for the 72 elementary students was: K = 7; First = 14; Second = 15; Third = 18; Fourth = 18.
- Estimated enrollment by end of second quarter is 84 which is an increase of 31 percent over last fall
- On count date, Mt. Iliamna enrollment was 10 students above projections.
- Classes above represent scope of behavioral support program at Mt. Iliamna; specialized settings within Mt. Iliamna have different staffing ratios

Middle School Special Education

Middle School SpEd Programs	Range of Caseloads	Average PTR	Number of Classes
Resource	12-18 students	14:1	61 teachers
Life Skills 1	7-13 students	10:1	4.5 classes
Life Skills 2	4-8 students	6:1	5 classes
Autism	5-9 students	8:1	2 classes

High School Special Education

High School Special Ed Programs	Range of Caseloads	Average PTR	Number of Classes
Resource	15-25 students	17:1	80.5 teachers
Life Skills 1	9-15 students	11:1	10 classes
Life Skills 2	4-9 students	6:1	7 classes
Autism	6-11 students	8:1	2 classes

Alternative Special Ed Programs 7-12	Range of Enrollment	Average PTR	Number of Classes
Resource	12-27 students	17:1	11 teachers

Continuation/COHO/Outreach	Range of Enrollment	Average PTR	Number of Classes
Resource	5-13 students	10:1	2 teachers

ACE/ACT

ACE/ACT Programs	Range of Enrollment	Average PTR	Number of Classes
ACE	15-25 students	20:1	3 teachers
ACT	10-17 students	11:1	6 teachers

Special Schools Program

Special Schools Program	Range of Enrollment	Average PTR	Number of Classes
Residential	9-18 students	13:1	15.5 teachers

Whaley School

Whaley School/ABA	Range of Enrollment	Average Class Size/CaseLoad	Number of Classes
Intensive Behavior Classes	4-8 students	6 students	24 teachers

Key Points:

3 elementary classes

21 secondary classes, including elective teachers

Related Services

Class size information across all related services programs is based on enrollment data from October 17, 2007. The total number of students receiving a related service is 4,587, representing an overall decrease of 103 students from the same time last year.

Speech-Language Services

The total number of students receiving IEP speech-language services is 2806, representing an increase of 55 students from last year, of which 846 students receive speech-only services and 1960 are special education students with speech. The number of students requiring assistive technology to support communication continues to increase, with at least 60 students using dedicated devices as stipulated by their IEPs.

School Psychology Services

Caseloads for school psychologists are determined by multiple issues other than school enrollment, i.e. the number of evaluations typical to a school, the number of functional behavioral assessments and manifestation determinations, and other special factors. Typically a school psychologist may be assigned to one secondary school and one elementary school while others are assigned to two elementary schools. The total number of students receiving IEP psychology services is 121, representing a decrease of 23 students from last year. The overall demand for psychology services in the schools increases yearly in response to discipline situations and crisis response.

Occupational Therapy/ Physical Therapy/ Adapted Physical Education

The number of students receiving OT (750), PT (216) and/or Adapted PE (459) is 1425, representing an increase of 31 students from last year. Average caseloads are 30 students for PT, 32 students for OT and 60 students for APE. Providers are highly itinerant, serving students in 4 to 12 sites each.

Hard of Hearing and Audiology Services

Thirty-five students receive services as hearing impaired, and/or 132 receive audiology services, totaling 167 which is a decrease of 55 students from last year. This decrease is likely due to a continued staff shortage for audiology. Most students receive itinerant services in their neighborhood schools, with the exception of students with cochlear implants who receive services in special classes at Williwaw Elementary.

Blind/Visually Impaired Services

Sixty-eight students receive BVI services, representing an increase of two students from last year. Average caseload size per specialist is 13 students. While the total number of students remains fairly consistent, there are increasing numbers of young Braille readers and students requiring advanced technology in order to access curriculum.

Alaska State School for Deaf and Hard of Hearing

The Alaska State School for Deaf and Hard of Hearing (ASSDHH) serves students of the state of Alaska through a program of comprehensive services supported by the District and the Department of Education and Early Development. Services for students ages three through 22 are provided in coordination with special education services of the District at Russian Jack Elementary School, Hanshew Middle School, East High School, and the ACE/ACT program. Students receive specialized instruction by ASSDHH staff and support in order to access general education at each of these sites. Enrollment in the Alaska State School for Deaf and Hard of Hearing generally fluctuates between 50 and 60 students. Enrollment as of October 27, 2006 is 56.

- Class sizes range from four to seven students at Russian Jack.
- Class size at Hanshew is seven.
- Teachers at the secondary level of ASSDHH are case managers for five to seven students each at the following locations; EHS, ACE, ACT, KCC.

BILINGUAL/MULTICULTURAL EDUCATION PROGRAM

Historically, enrollment of limited-English-proficient (LEP) students in the Bilingual/Multicultural Education Program (BMEP) has steadily increased; however, there was a decrease in enrollment this year because of state regulations regarding exiting students for progress. Attachment 1 (10-Year Historical Enrollment Chart) provides the total number of students receiving service during each designated school year. As of October 25, 2007, the 4,672 students identified and placed to receive services (Attachment 2) is much lower than the count last year in October 2005 of 6,625. There are 2,755 students in

grades K-6, and 1,917 students in grades 7-12 (also including sixth graders at Mirror Lake and Begich middle schools). Eight hundred and four students are new-to-the-district (NTD), which is slightly lower than the number of NTD in 2005-2006. Students receiving service from the BMEP speak 95 different languages. Table I shows the Enrollment of LEP Students by language spoken. As indicated in Language Charts 1 and 2, the top five languages are Spanish (1,294 or 27 percent), Samoan (754 or 16 percent), Hmong (657 or 14 percent), Tagalog (605 or 13 percent), and Yupik (222 or 5 percent).

An intensive articulation process from elementary to middle school and from middle school to high school has continued to gauge staffing decisions. In past years, students were exited from the program (if that were the need) and others were more closely monitored to make sure they were assessed and properly placed on the next level. Currently, students are being exited according to state requirements based on student proficiency for one year on the English Language Proficiency Assessment in the areas of listening, speaking, reading, and writing.

Elementary Bilingual Education students of limited-English-proficiency are enrolled at all schools, and bilingual staff members are assigned to all elementary schools in the district. The existing staffing standard attempts to provide a student/staff ratio (SSR) of 30:1, albeit, relatively high in comparison to the overall district SSR. The primary modes of delivery, as articulated in the board and state approved Plan of Service, consist of both individual or small group (two to eight students) tutorial, and in-class delivery. The current data reflect inequities in SSR in some schools. This is due to the fact that the assessment and placement of students is still in progress with a high number of students on the pending list. Once all assessment is complete, students will be transferred from the pending list, assigned to the appropriate language proficiency designation, and placed in appropriate service. The final reporting in November will reflect a more accurate picture of actual students scheduled for services. Upon receiving this information, decisions will be made to shift staff, if at all possible, from schools with low enrollments to schools with increased enrollments.

Due to the variables in enrollment districtwide of LEP students and changes made in the assessment of LEP students, there is a significant impact on the staffing at all schools.

Students in Eagle River receive service on a weekly basis by the resource teacher assigned to the school. These schools are Alpenglou (four students), Birchwood (five students), Eagle River (thirteen students), Homestead (four students), and Ravenwood (eight students).

On the elementary level, Bilingual Learning Centers are located at schools with a high concentration of LEP students (generally 90 or greater). Fourteen sites on the elementary level have been identified, including Rogers Park which was added this year: Creekside Park (54), Fairview (117), Government Hill (153), Klatt (68), Lake Hood (96), North Star (103), Mountain View (115), Muldoon (91), Rogers Park (65), Tudor (73), William Tyson (169), Williwaw (131), Willow Crest (94), and Wonder Park (68). Due to the number of students who exited due to progress and because of boundary changes, some of these schools are down in enrollment, so the assignments of teachers will need to be monitored for possible changes in the coming school year. There are 14 full-time teachers assigned to these schools, with one half-time teacher assigned to Eagle River schools as an itinerant teacher.

Each elementary learning center is staffed with one certificated teacher, as well as tutors who are non-certificated. They provide service to students with low English-language-proficiency. Tutors who work under the supervision of school principals and the bilingual supervisor staff the remaining elementary schools. Resource teachers visit these schools as well and work directly with non-English proficient (NEP) students in those schools to provide technical assistance to tutors and regular classroom teachers on an ongoing basis. There are 86.5 elementary tutor positions currently filled, with 2 positions unfilled, making the count 88.5 to be fully staffed.

Middle school bilingual education staffing consists of 2.0 FTE bilingual/ESL certificated counselors, 12.8 FTE certificated teachers, and 15.25 FTE tutors. Staffing for the middle school is a challenge because of the need to avoid homogenous grouping on teams. Challenges faced by the BMEP on the middle school level are reconfiguration of space and reallocation of staff resources to support the curriculum philosophy, which is so closely tied to curriculum strategies, appropriate forms of collaborative teaching, and coordination of services necessary to meet the unique needs of LEP students. Hence, staffing remains a major concern and issue at all middle schools. Clark Middle School students are attending Begich Middle School during construction of the new Clark Middle School with the largest concentration of LEP students, 154 (down from 316 last year), which is similar to Romig, with 151 students (down from 194 last year). Mears at 52 (down from 146 last year) and Hanshew at 57 (down from 151 last year) have significantly lower enrollments as well. Wendler, from 121 last year to 115 this year, and Goldenview, from 37 to 26, experienced little change, while Central increased slightly from 71 to 77. The middle schools in the Eagle River area show decreases, and they continue to have relatively low enrollments; Gruening (eight) and Mirror Lake (three). These two schools share a 1.0 FTE bilingual tutor.

The difficulty in staffing on the middle school level is providing a teacher or tutor for each of the teams, since LEP students are spread over all teams. The issue of obtaining ESL teachers who are highly qualified in several content areas is also a challenge.

High school bilingual education staffing consists of 8.0 FTE bilingual/ESL certificated counselors, 16.0 FTE certificated teachers, and 16 FTE filled positions of high school tutors. All high schools provide ESL courses and tutorial assistance for students, depending upon their level of English language proficiency. Due to student's limited English proficiency skills, ideally, class size should be capped at fifteen students maximum. Historically, East has the largest number of LEP students on this level, but has experienced from 521 students last year to 388 at the present time. Enrollment of LEP students at West has decreased from 384 last year to 261 this year. Currently, Bartlett has 176 LEP students, and Dimond has 117 LEP students. Service numbers have been growing for the last couple of years and BMEP will be taking a closer look at the needs of that school for the next school year. Staffing at Service should be similar to other high schools with similar needs; however, it is not. These schools have decreased in numbers of LEP students due to exiting for progress.

The changing demographics in ASD have brought the challenge of addressing the needs of low-literacy immigrant students. The Newcomers' Center (NC) was developed for students who are new to the country and need more intensive language and cultural assistance, and is in the eleventh year of existence. Students enroll in a combination of social studies and English language arts classes. Cognitively, students at the NC are generally three years or more below their age-appropriate grade level. Many factors contribute to this: students come from poor rural areas where education is not readily available; some have not used print in their native language; some are victims of war and postwar poverty which bars many from formal education. Currently, there are students in two separate sessions (42 in the morning and 42 in the afternoon session). There are three students on the wait list for the AM session and five on the wait list for the PM session. All of the students are monolingual speakers of another language. They have no school experience in US schools and limited, if any, schooling at all in their native countries. Students enrolled in the NC attend the center for half day and the other half-day attend classes at the area middle and high schools.

With bilingual/ESL counselors in five of the high schools and one at the Newcomers' Center, LEP students receive comprehensive support services that address the affective as well as intellectual aspects of their overall development. In addition to promoting linguistic and cognitive growth, LEP students receive exposure to occupational, career awareness, and vocational components that

offer functional, hands-on experience, and job readiness skills at the secondary level.

CHARTER SCHOOLS

As of September 28, 2007, there are seven charter schools approved by the School Board and in operation in the Anchorage School District. Lower class sizes and more personalized instruction characterize each of the programs.

Aquarian Charter School had an enrollment of 352 students in grades K-6 as of September 28, 2007. Aquarian is in its eleventh year of operation and is currently housed at 1705 West 32 Avenue.

Aquarian is designed as a rigorous academic program that integrates the arts, gifted services, science and foreign language into all curriculum areas. Community service projects are an integral part of this school's social learning projects, assisting many local agencies. A cap of 24 students per classroom is part of this school's charter, with a part-time teaching assistant at every grade level.

Grades

Kindergarten	60	Fourth Grade	49
First Grade	54	Fifth Grade	43
Second Grade	58	Sixth Grade	36
Third Grade	52		

Total Aquarian Charter School Students Enrolled **352**

Eagle Academy Charter School opened in September 2005 and is located at 10901 Mausel St., Suite 101, in Eagle River. In its third year of operation, it leases classroom and office facilities in a non-District facility. Eagle Academy offers an academically challenging program requiring mastery of performance standards before students progress to the next level of curriculum. Math and language arts instruction groups students by achievement level rather than by grade level. Eagle Academy's curriculum meets or exceeds Alaska's State standards. The students by grade level as of September 28, 2007 are as follows:

Grade	# of Students		
Kindergarten	25	4 th grade	25
1 st grade	25	5 th grade	23
2 nd grade	25	6 th grade	19
3 rd grade	25		

Total Eagle Academy Charter School Students Enrolled **167**

Family Partnership Charter School's office is located at 401 East Fireweed Lane, Suite 100. The enrollment as of September 28, 2007, was 522 students: 174 for kindergarten through sixth grades and 348 for grades seven through twelve. This charter school has an individualized program, and class sizes vary from one to small groups of students working with one teacher as part of their contract with the ASD certificated teacher. In its 11th year of operation, the Family Partnership Charter School leases office facilities in a non-District facility in order to accommodate parents and students in a more centralized location. The students by grade level are as follows:

<u>Elementary</u>		<u>Secondary</u>	
Kindergarten	14	Seventh	45
First	18	Eighth	50
Second	26	Ninth	50
Third	22	Tenth	67
Fourth	28	Eleventh	59
Fifth	27	Twelfth	77
Sixth	39	Total	348
Total	174		

Total Family Partnership Charter School Students Enrolled 522

Frontier Charter School has an office at 400 West Northern Lights Blvd. The enrollment as of September 28, 2007, was 334 students; 150 for K-6 and 203 for grades seven-twelve. This charter school has an individualized program. The focus is helping parents understand how their children learn as assessed through the Frontier Learning Profile. Frontier class sizes vary from one student to small groups of students working with one teacher as part of their contact with the school. In its third year of operation, the Frontier Charter School leases office facilities in a non-District facility in order to accommodate parents and students in a more centralized location. Students by grade level are listed below:

<u>Elementary</u>		<u>Secondary</u>	
Kindergarten	16	Grade 7	12
Grade 1	21	Grade 8	37
Grade 2	16	Grade 9	33
Grade 3	22	Grade 10	30
Grade 4	29	Grade 11	26
Grade 5	18	Grade 12	53
Grade 6	21	Total	191
Total	143		

Total Frontier Charter School Students Enrolled 334

Highland Tech Charter School had an enrollment of 244 students in grades seven through twelve as of September 28, 2007. The school is in its fifth year of operation and is currently leasing space at the ASD Education Center. The school is a standards-based program and promotes a project-based learning environment, which integrates technology, connectivity and student-centered content into the classroom. The students by grade level are as follows:

Grade 7	32	Grade 11	37
Grade 8	33	Grade 12	50
Grade 9	50	Total	244
Grade 10	42		

Total Highland Tech Charter School Students Enrolled 244

Rilke Schule German School of Arts and Sciences is a K through 8 school that focuses on high academic achievement by engaging each child through an enriched language curriculum taught primarily in German. The school is in its first year of operation and is temporarily located in the Change Point Church facility at 6689 Seafood Drive. Their new building at 650 International Airport Road is scheduled for completion in late December or early January. The enrollment as of September 28, 2007 was 177 students in kindergarten through eighth grade.

Kindergarten	38	Fifth Grade	12
First Grade	28	Sixth Grade	16
Second Grade	23	Seventh Grade	11
Third Grade	25	Eighth Grade	2
Fourth Grade	22		

Total Rilke Schule Charter School Students Enrolled 177

Winterberry Charter School is located at 508 W Second Avenue on the corner of Second Avenue and E Street. The enrollment as of September 28, 2007, was 171 students in kindergarten through seventh grade. The school has two half-day kindergarten classes, two grade four classes, one combined grade six and seven class, and one of each of the remaining grades. This year is Winterberry's third year of operation.

Kindergarten	32	Grade Four	29
Grade One	27	Grade Five	18
Grade Two	25	Grade Six	11
Grade Three	24	Grade Seven	4

Total Winterberry Charter School Students Enrolled 171

CC/RG/PM/LV/MH/JS/CG/CB/mh

Attachments

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The Tennessee Study of Class Size in the Early School Grades

Frederick Mosteller

Abstract

The Tennessee class size project is a three-phase study designed to determine the effect of smaller class size in the earliest grades on short-term and long-term pupil performance. The first phase of this project, termed Project STAR (for Student-Teacher Achievement Ratio), was begun in 1985, when Lamar Alexander was governor of Tennessee. Governor Alexander, who later served as secretary of education in the cabinet of President George Bush, had made education a top priority for his second term. The legislature and the educational community of Tennessee were mindful of a promising study of the benefits of small class size carried out in nearby Indiana, but were also aware of the costs associated with additional classrooms and teachers. Wishing to obtain data on the effectiveness of reduced class size before committing additional funds, the Tennessee legislature authorized this four-year study in which results obtained in kindergarten, first, second, and third grade classrooms of 13 to 17 pupils were compared with those obtained in classrooms of 22 to 25 pupils and in classrooms of this larger size where the teacher was assisted by a paid aide. Both standardized and curriculum-based tests were used to assess and compare the performance of some 6,500 pupils in about 330 classrooms at approximately 80 schools in the areas of reading, mathematics, and basic study skills. After four years, it was clear that smaller classes did produce substantial improvement in early learning and cognitive studies and that the effect of small class size on the achievement of minority children was initially about double that observed for majority children, but in later years, it was about the same.

The second phase of the project, called the Lasting Benefits Study, was begun in 1989 to determine whether these perceived benefits persisted. Observations made as a part of this phase confirmed that the children who were originally enrolled in smaller classes continued to perform better than their grade-mates (whose school experience had begun in larger classes) when they were returned to regular-sized classes in later grades. Under the third phase, Project Challenge, the 17 economically poorest school districts were given small classes in kindergarten, first, second, and third grades. These districts improved their end-of-year standing in rank among the 139 districts from well below average to above average in reading and mathematics. This article briefly summarizes the Tennessee class size project, a controlled experiment which is one of the most important educational investigations ever carried out and illustrates the kind and magnitude of research needed in the field of education to strengthen schools.

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Because we have all gone to school, we each have ideas about how to improve the system. For example, James Garfield once said that a pine log with a student on one end and Mark Hopkins, a beloved president of Williams College, on the other would be an ideal university. But if we want to improve school systems, we need to consider what changes may be practical and effective. Setting aside the discomfort of outdoor logs during New England winters, would Garfield's design have made effective use of President Hopkins's time? Aristotle, even when tutoring the young Alexander before he was called "the Great," is believed to have had more than one student per class.

The size of the class is largely under control of the school system, and its choice influences the size and number of classrooms and the number of teachers required, and so class size is naturally a concern of parents, teachers, and school administrators. Everyone is concerned that the pupils receive adequate attention and that the teachers are able to control their classes. Some courses seem to need more teachers per student than others. For example, classes in carpentry or cooking, in which hazardous tools and equipment are used, may require closer supervision than a class in arithmetic.

The effects of class size on children's learning have been studied, usually without reaching definitive conclusions. Most research on class size has compared the performance of pupils in classes of different sizes in such cognitive subjects as reading, mathematics, or social studies. Designing and executing these studies is difficult not only because parents may object to variation in the treatment of children but also because of the constraints that must be imposed if anything of value is to be learned from the investigation. Groups to be compared following different treatments need to be equivalent at the start. The treatments must be carefully described and delivered. Suitable measures of performance must be chosen. Beyond all this, a healthy atmosphere toward the investigation must be created; otherwise, the study can be easily sabotaged. It does not take many unwilling workers or full-time grumblers to spoil a research program.

In the 1980s, conditions favorable for a study of class size evolved in the state of Tennessee. Governor Lamar Alexander had established education as a top priority for his second term. Members of both the state legislature and the educational community in Tennessee had been intrigued by a modest-sized study in the state of Indiana, called Project Prime Time, which investigated the effect of reduced class sizes in kindergarten and first and second grades. For example, Bain and Achilles¹ report that, in Project Prime Time, (1) students in smaller classes scored higher on standardized tests than did those in larger classes, (2) the smaller classes had fewer behavioral problems, and (3) teachers of smaller classes reported themselves as more productive and efficient than they were when they taught larger classes.

The Tennessee legislators and teachers were also aware of an investigation by Glass and colleagues² which reviewed the vast literature on the effects of class size on learning using a special quantitative method called

meta-analysis. The results of this investigation suggested that a class size of 15 or fewer would be needed to make a noticeable improvement in classroom performance. At the time of the Glass study, the effect of class size on performance was controversial because many studies in the literature differed in their outcomes. The new methods used by Glass and his colleagues were not accepted by all professional groups. At the same time, there were ongoing discussions about the lesser cost and possibly equal effectiveness of placing paid teachers' aides in elementary classrooms. Because of the additional expense associated with a reduction in class size for early grades, members of the Tennessee legislature decided that any proposed innovation should be based on solid information and, therefore, authorized a four-year study of class size which would also examine the cost-effectiveness of teachers' aides. The legislature appropriated \$3 million in the first year for a study of pupils in kindergarten and then appropriated similar amounts in subsequent years for the project, which carried the acronym STAR (for Student-Teacher Achievement Ratio).³

The study was carried out in three kinds of groups: (1) classes one-third smaller than regular-sized classes, (2) regular-sized classes without a teacher's aide, and (3) regular-sized classes with a teacher's aide. By comparing average pupil performance in the different kinds of classes, researchers were able to assess the relative benefits of small class size and the presence of a teacher's aide. The experiment involved many schools and classes from inner-city, urban, suburban, and rural areas so that the progress of children from different backgrounds could be evaluated.

Study Design and Execution

Personnel from four Tennessee universities helped design and execute the Tennessee study, which was carried out in three phases (see Box 1). Each year, \$2.5 million was spent on additional teachers and teachers' aides. The remaining funds were used to gather and analyze the data and to carry out other obligations imposed by the enabling legislation.

Legislation for the STAR experiment required that studies be made of classes in inner-city, suburban, urban, and rural schools. Because the legislators did not define these types of residential areas, the study makers had to invent categories appropriate for Tennessee and their experiment. To do so, they placed inner-city and suburban schools in the category of *metropolitan* areas. Inner-city schools were defined as those in which more than half of the students received free or reduced-price lunches. Schools in outlying areas of metropolitan cities were called *suburban*. In nonmetropolitan areas,

schools in towns of more than 2,500 serving primarily an "urban" population were called *urban*, and the rest were classified as *rural*.

To be eligible to participate in the experiment, a school was required to sign up for four years and to have at least 57 children for any given grade (to comprise a small class of 13 and two classes of 22). This constraint assured the ability to make comparisons among the three kinds of classes within a single school. Participating schools received no extra support other than funds for additional teachers and aides and had to supply the extra classrooms. In any given calendar year, the experiment was carried out in one grade only, and this minimized the number of new classrooms needed. No new textbooks or curricula were to be introduced. Although 180 schools offered to participate, only 100 were large enough to qualify, and 79 actually participated in the kindergarten year.

The treatments planned for the program were started in 1985, beginning with

Box 1

The Tennessee Class Size Project

The Tennessee project on the effectiveness of small classes and of teachers' aides has had three phases:

Phase 1

1985-1989. The educational system of Tennessee carried out a four-year experiment, called Project STAR (for Student-Teacher Achievement Ratio), to assess the effectiveness of small classes compared with regular-sized classes and of teachers' aides in regular-sized classes on improving cognitive achievement in kindergarten and in the first, second, and third grades.

Phase 2

1989-. The Lasting Benefits Study (LBS) was an observational study of the consequences of the experimental program on children when they returned to regular-sized classes in the fourth, fifth, and sixth grades and beyond. This research phase asked whether the children who started in the smaller classes performed better in later grades. Only students who had been in the experiment (Phase 1) could contribute data to this second phase.

Phase 3

1989-. Project Challenge implemented the small classes in kindergarten and in the first, second, and third grades in the 17 districts of Tennessee where children are highly at risk of dropping out early. These districts have the lowest average incomes in the state.

kindergarten and continuing each year through first, second, and third grades. The classes were of three types: (1) small, 13 to 17 pupils; (2) regular size, 22 to 25 pupils; and (3) regular size with a teacher's aide. The small classes averaged

A teacher's aide had no specific duties but helped each teacher of a regular-sized class in whatever way the teacher wished. Some aides participated in teaching, others prepared materials and kept records, and some carried out all of these duties. Teachers' aides were paid.

The study findings apply to poor and well-to-do, farm and city, minority and majority children.

15 pupils, down about 35% from the average regular size of about 22 or 23. During the first year, the study involved about 6,400 pupils in 108 small classes, 101 regular-sized classes, and 99 regular-sized classes with teachers' aides.

Within a school, pupils and teachers were assigned to classes at random each year to ensure that classes came from equivalent populations and that teachers did not choose their classes. In a study of this kind, randomization protects against all variables that might matter, whether they have been identified or not.

Analysts report that attendance was about 95%, independent of school location, type of class, or minority or nonminority status.

Table 1 indicates the composition of the experimental groups by giving a breakdown of schools by city type and of classes by city type and ethnicity at the end of the first grade (second year of the experiment). This table shows participation by 6,572 pupils in 331 classes at 76 schools and is important because it indicates that enough pupils were studied to enable researchers to reach a conclusion. Ultimately, the findings from the investigations repeated themselves at least qualitatively in nearly every large cell of Table 1, suggesting that the study findings apply to poor and well-to-do, farm and city, minority and majority children. The magnitude,

Table 1

Composition of the First Grade Cross-Sectional Sample in the Second Year of the Tennessee Experiment				
	Location			
	Inner City	Urban	Suburban	Rural
Number of schools	15	8	15	38
Number of classes				
All majority students	0	18	28	119
All minority students	65	0	13	0
Mixed classes	5	23	21	39
TOTAL CLASSES	70	41	62	158
Number of students	1,495	804	1,214	3,059

Source: Finn, J.D., and Achilles, C.M. Answers and questions about class size: A statewide experiment. *American Educational Research Journal* (1990) 27,3:557-77.

control, and duration of the experiment illustrate the sort of investigations that are needed to improve education in the schools.

Examining and Interpreting the Findings

In assessing student performance, two types of tests were used: (1) standardized tests, which have the advantage of being used nationally but the disadvantage of not being directly related to any particular curriculum or course of study; and (2) curriculum-based tests, which reverse the advantages and disadvantages of standardized tests. Curriculum-based tests measure more directly the student's increased knowledge of what was actually taught, but they give little indication of where local results stand in the national picture.

The first graders took two standardized tests in reading: (1) the Stanford Achievement Test (SAT) for word study skills and reading, and (2) the Tennessee Basic Skills First (BSF) test for reading, a curriculum-based measure. In mathematics, first graders took one SAT (standardized) and one BSF (curriculum-based) test.

When an experiment applies a new treatment or employs a new method, one

way of comparing the effects of this new approach with those previously achieved using old treatments or methods is by expressing individual test scores in terms of standard deviation (see Box 2) and then expressing group differences as effect sizes (see Box 3). Here, *effect size* is defined as the difference between means divided by the standard deviation for individuals in the regular classes without aides. Thus Table 2 shows the effect sizes for small classes compared with the average of the

Both math and reading scores show a benefit of about one-fourth of a standard deviation.

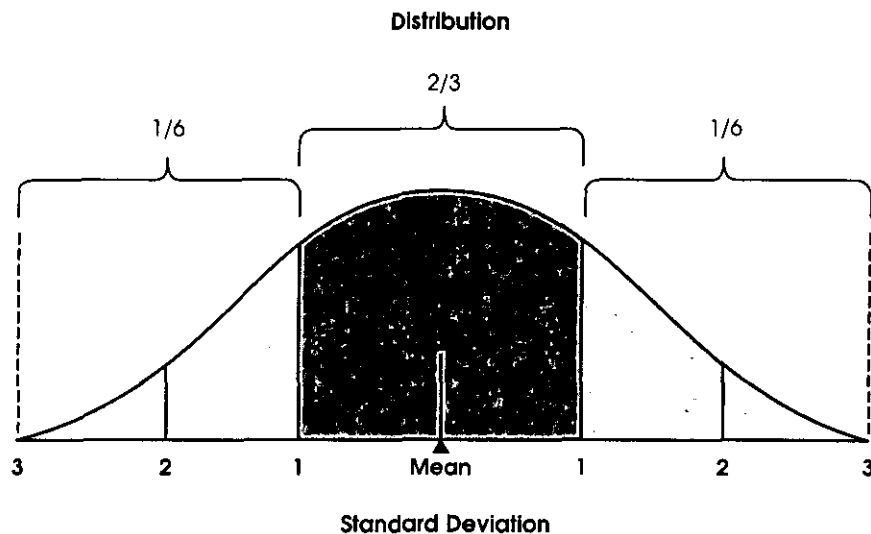
performance of the regular-sized classes with and without aides for the standardized tests. Both math and reading scores show a benefit of about one-fourth of a standard deviation. On the curriculum-based tests (BSF), reading scores improve by about one-fifth of a standard deviation and math scores by only one-twelfth.

To interpret the gains represented by these effects, it is useful to consider a pupil who, without a special treatment such as attending small classes, would achieve about the average score, say at the midpoint or 50th percentile, of all students.

Box 2

Standard Deviation

When considering distributions of quantities such as heights of people, family incomes, and scores on standardized tests, it is often useful to think first of the typical person, family, or score and then to represent that typical one by either the *mean* (average) of the numbers or the *median* (value of the middle measurement).



This drawing is of a distribution about the mean. The total area between the curve and the horizontal axis is one (or 100% of the measurements, incomes, or scores). For distributions that are approximately symmetrical, about half of the measurements lie to the right of the mean and half to the left. The slightly asymmetrical mountain-shaped (or bell-shaped) curve indicates roughly the way that many types of measurements distribute themselves in large populations, with the height of the curve representing the density of the scores at various positions. Typically, the distributions are dense in the middle and are less dense as one moves farther from the middle in either direction.

For many common distributions of everyday quantities, it is convenient to relate the mean and a measure of variability called the *standard deviation* to the fraction of measurements falling within a symmetrical interval about the mean. For example, this drawing indicates that the proportion of measurements falling in the interval that goes from one standard deviation to the left of the mean to one standard deviation to its right is about two-thirds. This number is not exact but is a rough approximation for distributions that are shaped generally like the one pictured.

What about the interval that includes the mean plus or minus two standard deviations? In the same approximate sense, this interval contains about 95% of the measurements for many distributions occurring in practice. If the interval is extended to three standard deviations each way from the mean, it will include nearly all—almost 100%—of the measurements.

What would a gain of one-fourth of a standard deviation do for such a pupil? That pupil would move from the 50th percentile of all pupils up to the 60th percentile, thus surpassing an additional 10% of the population beyond the 50% that were exceeded originally. Thus, an increase of one-fourth of a standard deviation can amount to considerable gain in performance.

In the study report, the average performance of small classes was compared with the average for all regular-sized classes with or without an aide. The resulting gain is shown in the first line of Table 2. The second line of that table shows the effect size of the gain from having an aide in the regular-sized class compared with the performance in the regular-sized class without an aide. When the effect of the small class is compared with that of the regular-sized class without an aide, the numbers in the first row of Table 2 increase to 0.30, 0.25, 0.32, and 0.15, respectively.

When performance of classes with an aide is compared with that of regular-sized classes without an aide, the gain averages about one-twelfth of a standard deviation. In other words, the average gain associated with an aide is about 35% of the gain achieved by reducing class size from regular to small.

Of special interest is the effect of class size on minority students. At the end of the second year of the experiment, in small classes compared with regular-sized classes and regular-sized classes with an aide, the effect size for minorities was about double that for majorities, averaged over the four tests. This extra gain occurred only in the first two years of the experiment; thereafter, the gains of both groups were about the same.

The original plan of the study was that all students would remain in their class types for all four years of the experiment. But after the first year, parents of students in regular classes objected to the continuation of the assignments. As a result of discussions with parents and with the people guiding the experiment, in the second year, students in the regular-sized classes with and without the teacher's aide were randomly reassigned half to classes with a teacher's aide and half to ones without,

but the assignments to small classes remained unchanged. Such changes were not allowed in later years. It was the view of the advisory group from the four universities that continued changes would make it impossible to interpret the results of the experiment. As a result of the changes that had been allowed, at the end of the second year, there were four situations in the regular classes for those who had attended kindergarten and first grade: (1) two years without an aide, (2) two years with an aide, (3) first year without an aide and second year with an aide, and (4) first year with an aide and second year without.

Schools had an influx of children in first grade who had not attended kindergarten the first year of the experiment. (Subsequently, kindergarten became required in Tennessee.) These children had to be assigned to the experiment in participating schools. This led to some separate analyses of results from kindergarten and first grade (for years one and two of the experiment) and of results from first, sec-

Of special interest is the effect of class size on minority students. The effect size for minorities was about double that for majorities.

ond, and third grades (for years two, three, and four of the experiment) to increase the numbers of students who experienced the same circumstances. (The rerandomization before the second year of the experiment shuffled some people between regular-sized classes with an aide and those without. Consequently, starting in the second year of the experiment, pupils could be classified according to their having experienced regular-sized classes with and without an aide.)

One way of summarizing results gives the percentile ranks for the average score based on national norms for the test. Table 3 shows the results for small classes, regular-sized classes, and regular-sized classes with a teacher's aide for both Total Reading SAT and Total Math SAT. Averaged over the four grades, the small classes gained a little more than eight percentiles over the regular-sized classes

Box 3

Effect Size

When an experiment applies a new treatment whose consequences are to be compared with those of the old or standard treatment, the difference in their consequences is often called the *size of effect* of the new treatment. For standardized tests, information is usually available which gives the distribution of scores for members of large populations who take the tests. Frequently, these distributions look like the common distributions described in Box 2. They are shaped approximately like distributions called Gaussian, or normal, in English-speaking countries. (When used in this way, the term *normal* means "usual, customary, or related to the norm" and does not connote an ideal situation or a desirable state of being.) The shapes of these curves are often well described by a formula that requires knowing only their mean and standard deviation.

Suppose that the national mean of a certain test is 500 and that its standard deviation is 100. Suppose as well that a new method of teaching produces higher test scores in an experimental group than would have been achieved without it, say a distribution with a mean of 550 instead of the usual 500. One way of thinking about this situation is to view the effect as shifting the original distribution to the right by 50 points—essentially adding 50 points to everyone's score.

To interpret the value of this gain requires knowing how variable the scores are. If, for example, the standard deviation is 1,000 instead of 100, then 50 points does not look like much of a gain; but if the standard deviation is 10, a gain of 50 points is astounding because it represents a gain of five standard deviations, when a gain of only three standard deviations would take a student from an average score to one of the best scores that had ever been made.

One interpretable quantity is the gain represented as a fraction of the standard deviation of the original distribution. In this example, the fractional gain would be $50/100 = 0.5$, or half a standard deviation. An improvement of half a standard deviation would move people who were originally at the mean, which is also about the 50% point on these distributions, up to about the 69% point. Thus, a person who originally scored higher than half the population would now score higher than 69%.

This particular ratio of gain to the standard deviation is often called the *effect size*, a technical term that has a more specific meaning for such tests than the general notion of *size of effect*, which refers to any method of describing changes. In practice, effect sizes of half a standard deviation are rare.

Although effect sizes of the magnitude of 0.1, 0.2, or 0.3 may not seem to be impressive gains for a single individual, for a population they can be quite substantial. For example, a 0.2 effect size corresponds in the United States to the difference between the average heights of 15-year-old versus 16-year-old girls. For large numbers of girls of each age, this average difference may seem small, but most people notice it.^a An effect size of 0.3 corresponds to about 30 points on a SAT verbal or mathematics standardized test.

How much does computer-based instruction help students learn when it is offered as an adjunct to traditional teaching in certain settings? A review of 59 studies finds a mean effect size of 0.25 for computer-based instruction.^b And, as a result of this finding, computer-based instruction is viewed as an extraordinarily promising innovation—one that might revolutionize education.

Sources:

^a Cohen, J. *Statistical power analysis for the behavioral sciences*. 2nd ed. Hillsdale, NJ: Erlbaum, 1988.

^b Kulik, J.A., Kulik, C.C., and Cohen, P.A. Effectiveness of computer-based college teaching: A meta-analysis of findings. *Review of Educational Research* (1980) 50:525-44.

Table 2

Gains in Effect Sizes from Small Classes				
Gains in effect sizes from small classes in first grade compared with all regular-sized classes and from regular-sized classes with an aide compared with regular-sized classes without an aide				
	SAT Reading	BSF Reading	SAT Math	BSF Math
The effect size on performance in small classes compared with performance in regular-sized classes with or without an aide	.23	.21	.27	.13
The effect size on performance in regular-sized classes with an aide compared with regular-sized classes without an aide	.14	.08	.10	.05

Source: Finn, J.D., and Achilles, C.M. Answers and questions about class size: A statewide experiment. *American Educational Research Journal* (1990) 27,3:557-77, Table 5.

without aides in reading and a little less than eight percentiles in mathematics. The addition of an aide to a regular-sized class results in a slight gain in both reading and math over the regular-sized class without an aide.

In the third year of the four-year study, questions were raised about the persistence of effects when children returned to regular-sized classes, as they would in fourth grade, and so an additional sum was appropriated for a three-year follow-up observation called the Lasting Benefits Study (LBS). As a part of this study, researchers observed the performance of children who had been in the three types of experimental classes during kindergarten and the first, second, and third grades after they returned to regular-sized classes in the fourth, fifth, sixth, and later grades.

In a paper presented at a meeting of the North Carolina Association for Research in Education at Greensboro, North Carolina, Achilles and colleagues reported on the Lasting Benefits Study.⁴ These authors found that, in the fourth and fifth grades, the children who had originally been in small classes scored higher than those who had been in regu-

lar-sized classes or in regular-sized classes with a teacher's aide. In the fourth grade—the first year after return to regular-sized classes—the effect size was about one-eighth of a standard deviation, averaged across six different cognitive subjects studied, and in the fifth grade, it was nearly two-tenths of a standard deviation, again averaged across six subjects. Within each grade, the different subjects produced almost the same effect size, though the

In the fourth and fifth grades, the children who had originally been in small classes scored higher than those who had been in regular-sized classes.

observed gain was somewhat larger for the fifth grade. Curiously, in both of these years, the effect size systematically favored the regular-sized classes previously without a teacher's aide over those previously with an aide, though the difference was small, averaging about 0.03 over all subjects in both grades. The encouraging finding is that early experience with the smaller class size seems to have had a continued effect beyond the moment when the children returned to regular-sized classes.

Table 3

Summary of Project STAR Results in Terms of the Percentile Ranks of Average Scores Based on National Test Norms				
Grade level	Percentile ^a			
	K	1	2	3
Total reading SAT				
Small	59	64	61	62
Regular without an aide	53	53	52	55
Regular with an aide	54	58	54	54
Total math SAT				
Small	66	59	76	76
Regular without an aide	61	48	68	69
Regular with an aide	61	51	69	68

^a Percentile ranks are based on Stanford's multilevel norms.

Source: Word, E., Johnston, J., Bain, H.P., et al. *Student/Teacher Achievement Ratio (STAR): Tennessee's K-3 class size study*. Nashville: Tennessee Department of Education, Figures 1 and 2.

As a consequence of the systematic findings of improvement in performance of pupils in small classes over those in regular-sized classes, Tennessee implemented reduced class sizes for beginning students in kindergarten and first, second, and third grades in a program called Project

ematics. Before the small classes were introduced, these districts had been performing well below the average for the state in mathematics; after the intervention, they moved above the average.

It should be noted that the gains recorded here are not part of a carefully controlled experiment; they are consequences of installing the program. For this reason, the comparisons are not as well equated as they were in the original investigation. To measure experiment gains would require carrying out new class size experiments in the districts where the program is being implemented. Belief in the continuing benefits of the program is based on the uniform improvement found in the experiment for all types of classes in all types of cities. The additional evidence based on norms during the implementation phase, while reassuring, must be regarded as weaker because this new investigation is less well controlled.

An additional way to report the progress gives the average rank of the test scores of the 17 Tennessee districts in Project Challenge (among the 139 districts) for the years reported so far (1989-1993) in reading and mathematics. The results reported by Achilles, Nye, and Zaharias⁶ for the second grade are shown in Table 4.

Belief in the continuing benefits of the program is based on the uniform improvement found in the experiment for all types of classes in all types of cities.

Challenge (refer to the description of Phase 3 in Box 1) in the 17 school districts with the lowest per capita income and the highest percent of free or reduced-price lunch participation among students.

In the summary report for Project Challenge, Nye and colleagues observe that, in the school districts where small classes were installed in kindergarten, first, second, and third grades, both the reading scores and the math scores improved, compared with previous performance by children in these districts and with other schools in the state.⁵ The gains in effect sizes were 0.4 for reading and 0.6 for math-

Table 4

Average Second Grade Ranks for the 17 Districts Among the 139 School Districts for Early Years of Project Challenge				
Subject	Year			
	1989-90	1990-91	1991-92	1992-93
Reading	99	94	87	78
Mathematics	85	79	60	56

Source: Achilles, C.M., Nye, B.A., and Zaharias, J.B. Policy use of research results: Tennessee's Project Challenge. Paper presented at the Annual Convention of the American Educational Research Association, San Francisco, April 1995. Available from the Center of Excellence for Research in Basic Skills, College of Education, Tennessee State University.

When these districts are ranked from 1 to 139, where 1 indicates best academic performance and 139 indicates the worst, the average rank for all districts is 70. Note that in mathematics, the average rank for 1991-92 and for 1992-93 is below 60 (and so above the median) so that the 17 districts have shown a startling improvement as well as a gain of 20 ranks in reading for second grade. The same report mentions that the corresponding analysis of first grade shows that the 17 districts were better than average in both reading and mathematics in 1992.⁷

In summary, the evidence is strong that smaller class size at the beginning of the school experience does improve the performance of children on cognitive tests. Observations from the Lasting Benefits Study confirm that the effect continues into later grades when children are returned to regular-sized classes. In addition, the implementation of the program for the economically poorest districts seems to be improving the performance of children in these districts by noticeable amounts. In regular-sized classes, an aide produced some gain in kindergarten and in the first, second, and third grades; but when students returned to regular-sized classes, the gain from aides did not persist. After the small classes were implemented in all 17 school districts, no further observations were made about the in-classroom value of paid teachers' aides.

Special Concerns

During the course of the experiment, researchers made two substantial departures from the basic plan: they rerandomized regular-sized classes during the second year and moved incompatible children. In addition, researchers instituted a teacher training program between the second and third year.

Second-Year Rerandomization in Regular-Sized Classes

As reported earlier, one departure from the original plan occurred in the second year, when the children in regular-sized classes were rerandomized to regular-sized classes with an aide and regular-sized classes without an aide. Such a change applied to all who had entered the experiment in kindergarten. From the point of view of

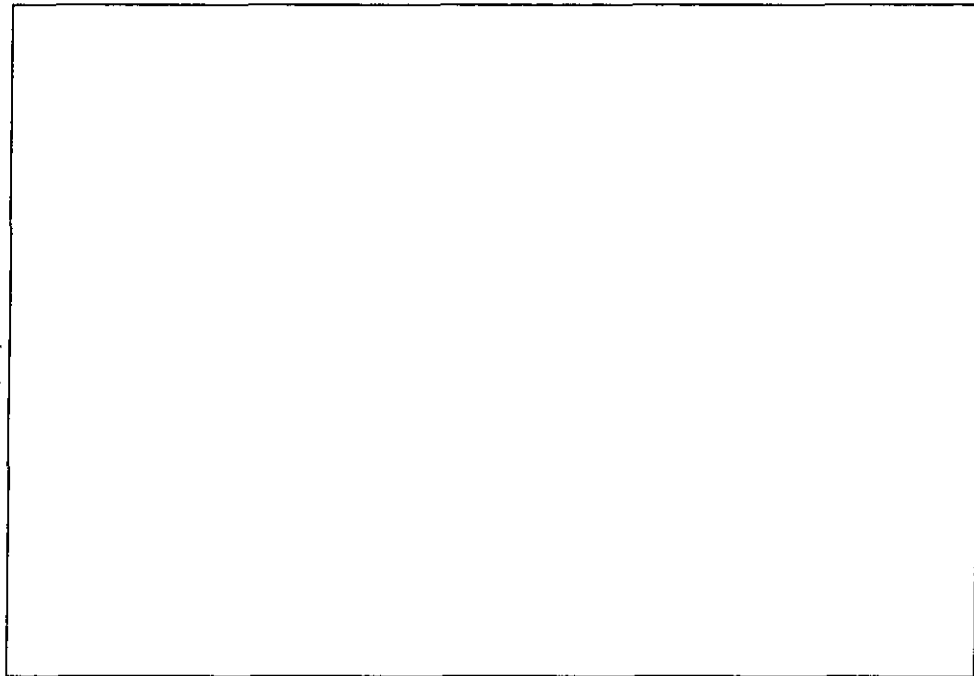
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those beginning in kindergarten, it created four rather than two regular-sized groups of classes for analysis and comparison, as described above. After the second year, the children in regular-sized classes continued with their second-year assignment. This change complicates the analysis for all children except those whose assignments remained unchanged and makes it difficult to assess accurately the effectiveness of having or not having a teacher's aide.

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Moving Incompatible Children

One benefit reported from the Indiana study was that behavioral problems were reduced in the smaller classes. Nevertheless, in Project STAR at the end of the first year, 48 students moved from small kindergarten classes to regular classes with an aide, and 60 moved to regular classes without an aide.⁸ Thus, the number of students moved from small classes was 108 of 1,678 students.⁹ This move was intended to separate incompatible chil-

It is impossible to assess the impact of this reassignment on the experiment; and, in fact, it may have had little impact because the affected students may have been removed from the analysis altogether.

The Teacher Training Program

The added feature in Project STAR came between the second and third years, when it was decided to give a special training course to 57 teachers. The enabling legislation had specified teacher training. Essentially, all teachers were getting some additional training as a routine matter in Tennessee, but apparently it was felt that the legislation called for something special. The participating teachers in 15 selected Project STAR schools were all given a total of three days of special training. The training was the same for all teachers selected; their assignment to small or regular-sized classes had not yet been made.⁸ When one considers that 30% of these teachers already had 20 years of teaching experience and only four had fewer than 3 years of experience, a three-day training program seems modest. As it turned out after the training, the classes with trained teachers performed the same as did the classes with untrained teachers.

Having fewer children in class reduces the distractions in the room and gives the teacher more time to devote to each child.

dren and "to achieve sexual and racial balance,"¹⁰ the latter a puzzling remark in view of the purported emphasis on randomization. No mention is made of what was done about incompatible students who were already in regular-sized classes. Perhaps there was nowhere to move them if there was only one small class or perhaps children seem more incompatible in small classes. A school administration planning to reduce class sizes might want to keep this potential difficulty in mind.

Class Size Drift

In addition, the sizes of the classes drifted a bit as time went on. Some small classes

became larger than their intended upper bound, and some regular-sized classes became smaller than their intended lower bound. The overall outcome of these violations of the original distributions should be to underestimate the effectiveness of the small classes compared with that of the regular-sized classes.

Assessing the Implications of the Study

Smaller Class Size

Why does smaller class size help teaching and learning? Reducing a class from 23 to 15 reduces the number of children in the room by about one-third. Having fewer children in class reduces the distractions in the room and gives the teacher more time to devote to each child. However, the impression one gets from reading papers emerging from Project STAR is that at least some teachers and administrators engaged in the study think of themselves as dealing with a start-up phenomenon. When children first come to school, they are confronted with many changes and much confusion. They come into this new setting from a variety of homes and circumstances. Many need training in paying attention, carrying out tasks, and interacting with others in a working situation. In other words, when children start school, they need to learn to cooperate with others, to learn to learn, and generally to get oriented to being students. These observations fit neatly with several current theories of education, including the idea of frames and scripts.¹¹⁻¹⁶

The experiment showed that the minority groups gained more than others in the first two years of the experiment; and although the last two years showed benefits comparable with those of the majority, there was a falling off of benefit. Some statements in the report by Word and colleagues³ suggest that much of the gain from the small classes was achieved in the first two years. The data presented in Table 3 do not show the falling off, but other summary tables from the study might.

Optimum Class Size

The idea of an ideal, or optimum, class size is open to question. This investigation

did not provide information about a variety of class sizes. Within the ranges of what is affordable, it is reasonable to suppose that smaller classes are preferable for beginners. But some desired training probably could not be accomplished in classes of such small sizes as one or two pupils even if they were affordable. Learning to work in a group is important and requires the presence of others.

Persistence of Beneficial Effects

In the Lasting Benefits Study,⁴ a continuation of studies evaluated the performance of students from small classes as compared with the performance of students from regular-sized classes or regular-sized classes with an aide after all students had returned to regular-sized classes. The results always favored the students from smaller classes. One year later (1989-90), the effect sizes ranged from 0.11 to 0.16 ($n = 4, 230$) in the fourth grade, and then, in subsequent years, from 0.17 to 0.34 ($n = 4, 639$) in the fifth grade, from 0.14 to 0.26 ($n = 4, 333$) in the sixth grade, and

The students who were originally in smaller classes continued to perform better than the students from regular-sized classes with or without a teacher's aide.

from 0.08 to 0.16 ($n = 4, 944$) in the seventh grade. Data from the eighth grade have been gathered and are being analyzed. Thus, year after year, the students who were originally in smaller classes continued to perform better than the students from regular-sized classes with or without a teacher's aide.¹⁷

Conclusion

Compelling evidence that smaller classes help, at least in early grades, and that the benefits derived from these smaller classes persist leaves open the possibility that additional or different educational devices could lead to still further gains. For example, applying to small classes the technique of within-class grouping in which the teacher handles each small group separately for short periods could strengthen

the educational process (essentially a second-order use of small class size). The point is that small classes can be used jointly with other teaching techniques which may add further gains.

Because a controlled education experiment (as distinct from a sample survey) of this quality, magnitude, and duration is a rarity, it is important that both educators and policymakers have access to its statistical information and understand its implications. Thought should be given by both public and private organizations to making sure that this information is preserved and well documented and that access to it is encouraged. The Tennessee three-phase study calls attention to the statewide con-

trolled experiment as a valuable device for assessing educational interventions and, thereby, improving school systems.

The preparation of this material was supported in part by a grant from the Andrew W. Mellon Foundation to the American Academy of Arts and Sciences in support of the Center for Evaluation of its Initiatives for Children program. The author's efforts have been helped by the kind responses of people who worked on the Tennessee class size project and have kept him in touch with project publications as they have appeared. Professors C.M. Achilles and J.D. Finn have given helpful advice and information. In addition, suggestions from John Emerson, Richard Light, Marjorie Olson, Jori Raymond, Jason Sachs, and Cleo Youtz improved early versions of the manuscript.

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ANSWERS TO THE ARGUMENT THAT CLASS SIZE REDUCTION COSTS TOO MUCH

Reducing class size is a long term investment which pays substantial returns.

Class Size vs. Pupil Teacher Ratio

When answering the argument that class size reduction costs too much, you must first explain the difference between Class Size and Pupil Teacher Ratio (PTR). **Class Size** is the number of students who regularly appear in a teacher's classroom and for whom that teacher is primarily responsible and accountable. **PTR** is a derived estimate commonly computed by dividing the number of students in a school by the number of professionals who work at or serve that school (e.g., counselors, special teachers, administrators, librarians, etc.). The difference between Class Size and PTR is about 9 or 10 students. In a school with a PTR of 16:1 you will find class sizes of about 25 or 26. (For additional information read the structured abstract of Mark Sharp's dissertation. The abstract can be found on the Reduce Class Size Now web site- http://www.reduceclasssizenow.org/sa_articles/SA9.pdf.)

Collect the Following Data to Make Your Case

- Number of Students
- Number of Schools
- Number of Title I schools
- Number of Welfare Families
- Per Pupil Expenditure
- Number of Retainees for each Grade Level
- Number of Dropouts for each Grade Level
- Annual Cost of State Incarceration
- Amount of Federal, State, and Local Education Funding

Class Size Reduction Should be Implemented in Phases

- During the first year of implementation reduce class sizes in kindergarten, first grade, and second grade.
- The second year of implementation, reduce class sizes in third grade and fourth grade.

Initial Costs

- Teacher Salaries
- Classroom Space

Return on the Investment

Krueger's (2002) analysis of STAR's class size experiment "suggest[s] that the internal real rate of return from a seven-student reduction [from 22 students to 15 students] in class size in the first four years of primary school is about 6%. At a 4% discount rate, every dollar invested in small classes yields about \$2 in benefits." (For additional information read the structured abstract of Alan Krueger's analysis. The abstract can be found on the Reduce Class Size Now web site- http://www.reduceclasssizenow.org/sa_articles/SA13.pdf.)

- *Teacher Morale*- increased attendance; reduced substitute costs; reduced "burnout"
- *Teacher Incentive*- attract and retain quality teachers
- *Parent and Community Involvement*- attract parents and volunteers; better communication between teachers and parents; field trips (etc.) less congested and require fewer volunteers (1 teacher and 2 volunteers can take a class on a field trip)
- *Improved Academic Achievement*- better test scores; helps close the racial achievement gap
- *Fewer Retentions*- number of students "held back" decreases; schools pay double for every grade a student repeats
- *Fewer Dropouts*- unemployment rate for dropouts is 4 times greater than for high school graduates
- *Improved Student Behavior*- vandalism costs decrease; expulsions and suspensions decrease; fewer discipline problems; fewer classroom disruptions
- *Early Identification of Learning Disabilities*- special education programs reduced in later years; programs accurately "targeted" to most needy students
- *Improved High School Graduation Rates*- adults without high school diplomas earn 42% less than high school graduates
- *Increased College Entrance Test-taking Rates*

Sample Plan for Implementation of Class Size Reduction in SMART District

- Year 1 implementation: reduce class sizes in kindergarten, first grade, second grade
- Year 2 implementation: add third grade and fourth grade

Example of Class Size Reduction in SMART District

Number of Students in District: 3,487	Total Number of Classroom Teachers: 206
Number of Students in K-4: 1,358	Number of Classroom Teachers K-4: 62
Per Pupil Expenditure (PPE): \$7,985	Beginning Teacher Salary: \$30,964
Revenue: Local- \$7,575,308	State- \$17,801,278
	Federal- \$2,483,260

Costs

Additional Classrooms- Additional space not needed. Classroom space was found by reorganizing existing classroom and building space and in some cases by using two teachers per room.

Additional Teachers- Year 1: Kindergarten – Grade 2: 9 teachers added to reduce classes from 22 to 18
9 teachers added at \$30,964 each = \$278,676 in costs
Year 2: Grades 3 – 4: 5 teachers added to reduce classes from 22 to 18
5 teachers added at \$30,964 each = \$154,820 in costs
Total Cost for Additional Teachers: \$433,496

Estimated Savings from Decreased Retentions

38 K-2 Students Retained (Year 1:Pre-Implementation)	27 K-2 Students Retained (Year 1:Post-Implementation)
48 K-4 Students Retained (Year 2:Pre-Implementation)	34 K-4 Students Retained (Year 2:Post-Implementation)
86 K-4 = \$686,710 (\$7,985 PPE X 86)	61 K-4 = \$487,085 (\$7,985 PPE X 61)
\$686,710 - \$487,085 = \$199,625 Saved Due to 30% Decrease of Retainees	

Payment for Implementation

Savings \$199,625 + Federal \$233,871 = \$433,496

Note: Costs of teachers can be reduced by reassigning support teachers (e.g., reading, math, special, etc.) to a small class of their own. With classes of 18 it is possible for one paraprofessional to assist two teachers.

Additional Educational and Economic Benefits

- High school graduation rates for lower socioeconomic (SES) students improved from 70.2% (no small classes) to 88.2% if students had small classes in grades K-3; graduation rates for higher SES students improved, but less dramatically (83.7% to 87%). *Finn, Gerber, and Boyd-Zabarias, 2004*
- College test-taking rates for African-American students who had been in a small class in K-3 were statistically significant, reducing the gap between the rates of African-American and white students in taking the ACT or SAT college-entrance tests by 54%. If taking college-entrance exams equates with the person's actually attending college, then the large gains for minority students can have economic benefit from earnings and reduced need for social services. *Krueger and Whitmore, 2000*
- If all students were in a small class in grades K-3 for one to four years . . . the black-white test-score gap would fall by 38% in grades K-3, and by 15% thereafter. *Krueger and Whitmore, 2001*

Nationwide Costs of NOT Reducing Class Size

- Each year's dropouts will cost the country over \$200 billion during their lifetimes in lost earnings and unrealized tax revenues (Catterall, 1985).
- High school graduates, on the average earn \$9,245 more per year than high school dropouts (Employment Policy Foundation, 2002).
- In today's workplace, only 40% of adults who dropped out of high school are employed (Alliance for Excellent Education, 2003).
- 75% of America's state and 59% of America's federal prison inmates are high school dropouts (Harlow, 2003).
- A 1% increase in high school graduation rates would save approximately \$1.4 billion in incarceration costs, or about \$2,100 per each male high school graduate (Alliance for Excellent Education, 2003).
- The estimated tax revenue loss from males ages 25 – 34 who did not complete high school would be approximately \$944 billion, with cost increases to public welfare and crime at \$24 billion.
- A National Center for Education Statistics study found high school dropouts were more than twice as likely to receive public assistance as high school graduates who did not go on to college (Smith et al., 1996).