



## DETERMINING THE COST OF PROVIDING AN ADQUATE EDUCATION IN THE STATE OF MONTANA

Prepared for the Quality Schools Interim Committee and the Montana State Legislature  
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## Overview

- Overview of Successful School Methodologies
- Results of Individual Successful School Analyses
- Summary Results of Successful School Analyses
- Overview of Professional Judgment Methodology
- Results of Professional Judgment Analysis

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## Successful School Analyses: Key Points

- When examining schools, American Indian Schools (i.e. "AI schools": 50% or more of student population) were separated from other schools. If not, results would have been invalid. In addition, when comparing groups of schools, enrollment had to be addressed
- Absolute performance and improved performance were analyzed
- Percent of special populations served was also taken into account

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### Successful School Analyses: Key Points

- Expenditures do not include expenditures for facilities, transportation, and some other expenditures such as adult education. Input from OPI and others was used to determine which expenditures to "pull out".
- Expenditures are for the 2003-04 school year.
- The average expenditure for districts serves as a proxy for school expenditures.
- 2005-06 estimated expenditures were based on growth in funding over the past decade plus additional funding provided by the legislature.
- The OPI website is user friendly and staff at OPI were very helpful.

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### Overall Statistics for MT Schools

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Avg.	Staff Ratio Avg.
All Schools	843	\$7,272	174	33.6%	11.1 %	4.6 %	11.3 %	14.4	10.8
Am Indian Schools 50%AM	73	\$10,679	158	76.6 %	13.8 %	42.5 %	82.3 %	11.3	7.8
Non Am Indian Schools	770	\$6,979	175	29.9 %	10.8 %	1.3 %	5.2 %	14.7	11.2

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### Statistics on Non American Indian Schools With and Without 60% of Students Meeting Performance Standards on MontCas (CRT) 2005. Top and Bottom 5% in Expenditures Excluded

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
All CRT Schools wo AM	451	\$6,812	237	29.2%	11.0%	1.1%	5.2%	15.4	11.7
Schools 60% CRT Math & Reading	215	\$6,765	279	26.6%	10.6%	1.0%	4.4%	15.5	11.9
Schools <60% CRT Math & Reading	236	\$6,861	248	31.8%	11.4%	1.2%	6.1%	15.3	11.4

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### Making Appropriate Comparisons

- One could assume that since expenditures for schools meeting standards are less than those that are not, funding does not matter.
- However, this would be a significant oversimplification since the student population of the schools was not taken into account.
- Therefore, we developed a formula to create "discount rate expenditure levels" for those schools serving a higher proportion of special needs students.

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### Discount Rate Information

- The "discount rate" assumes that students eligible for the free & reduced lunch program (F&R), LEP students, and American Indian students cost 25% more to educate. Many states across the country give this additional support percentage for such students.
- In addition, research has shown that expenditures for special education students are approx. twice that of non special education students.
- Therefore, we provide a 25% "discount" for F&R, LEP and American Indian students, and a 100% discount for special education students.

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### Discount Rate Information

- Some may argue that such an approach overstates the costs of students that are in more than one category (i.e. F&R students that are also LEP), and is "double dipping".
- However, for sake of argument over whether the compounding is greater or less than the sum of parts, we applied discounts for all disadvantaged classifications.
- Now lets turn to how discount rate formula operates.

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**Comparison of Expenditures  
Between Schools  
60% MontCAS vs. <60% MontCAS**



	Exp.	F&R%	SE%	LEP%	AM IN%	
60% CRT Schools:	\$6,765	26.62	10.58	.99	4.44	
<60% CRT Schools:	\$6,861	31.77	11.42	1.23	6.10	
Special Pop Differences		5.15	.84	.24	1.66	
Multiply by Discount Rate		.25	1.00	.25	.25	
Add Discount Rates		1.29	.84	.06	.42	=2.61
Discount Rate: 1-.261 =						.9739 times \$6,861 = \$6,682

Therefore, schools with 60% schools spend \$6,765 as compared to \$6,682 or 1.25% more.

Est. 2005-06 expenditures \$1.2 billion:  
\$1.2 billion times 1.25% = \$14.9 million more required

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**Comparison of Expenditures Between  
75% MontCAS Schools vs. Subgroup <60%  
MontCAS**



	Exp.	F&R%	SE%	LEP%	AM IN%	
75% CRT Schools(56):	\$6,620	27.34	8.96	.65	4.22	
<60% CRT Schools(56)*:	\$6,830	31.76	11.42	1.24	6.10	
Special Pop Differences		4.42	2.47	.59	1.88	
Multiply by Discount Rate		.25	1.00	.25	.25	
Add Discount Rates		1.11	2.47	.15	.47	Total: 4.19
Discount Rate: 1-.419 =						.9581 times \$6,830 = \$6,573

Therefore, 75% schools spend \$6,620 as compared to \$6,573 or .71% more.

Est. 2005-06 expenditures \$1.20 billion:  
\$1.2 billion times .71% = \$8.5 million more required

\*These were a subset of <60% CRT schools that were chosen based on size. When selecting, expenditures and special student populations were not used.

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**Comparisons Continued**



- Another analysis performed broke the schools into different size categories and then performed discount rate calculations.

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Statistics on Schools With and Without 60% of Students Meeting Performance Standards on MontCas (CRT) 2005 by School Size. Top and Bottom 5% in Expenditures Excluded



Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Less 50 Students 60%	37	\$8,046	32	33.6%	11.3%	.25%	2.4%	9.8	7.1
Less 50 Students <60%	37	\$8,608	35	41.6%	10.6%	.9%	6.2%	10.5	8.5
50-149 Students 60%	64	\$7,866	94	28.4%	9.3%	.2%	1.5%	12.2	9.7
50-149 Students <60%	81	\$7,962	92	36.1%	12.0%	1.3%	5.4%	12.3	9.5
150-249 Students 60%	32	\$6,779	207	31.9%	10.3%	.3%	3.2%	14.1	10.4
150-249 Students <60%	30	\$6,827	192	35.8%	11.2%	1.0%	4.9%	14.1	10.6

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Statistics on Schools With and Without 60% of Students Meeting Performance Standards on MontCas (CRT) 2005 by School Size. Top and Bottom 5% in Expenditures Excluded



Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
250-399 Students 60%	38	\$6,266	314	33.4%	10.3%	1.3%	6.9%	16.1	12.2
250-399 Students <60%	47	\$6,430	321	38.3%	11.0%	1.1%	6.4%	15.7	11.3
400-599 Students 60%	27	\$6,400	477	27.8%	12.4%	1.4%	4.8%	17.3	13.0
400-599 Students <60%	26	\$6,429	493	30.2%	11.8%	1.2%	4.4%	16.8	12.2
600 Up Students 60%	15	\$6,834	1164	16.6%	10.3%	.8%	4.0%	16.2	12.9
600 Up Students <60%	9	\$6,896	1206	20.1%	11.5%	.9%	7.6%	7.6	13.1

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Results for Schools with Less than 50 Students



Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Less 50 Students 60%	37	\$8,046	32	33.64%	11.27%	.25%	2.44%	9.8	7.1
Less 50 Students <60%	37	\$8,608	35	41.56%	10.58%	.92%	6.21%	10.5	8.5
Differences				7.92	-.69	.67	3.77		
Multiplier				.25	1.00	.25	.25		
Totals				1.98	-.69	.17	.94	Total 2.40	
Calculations	1-.0240	.976	\$8,401	4.4% more than	\$8,046				

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### Results for Schools with 50-149 Students

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
50-149 Students 60%	64	\$7,866	94	28.43%	9.33%	.22%	1.58%	12.2	9.7
50-149 Students <60%	81	\$7,962	92	36.14%	12.03%	1.25%	5.44%	12.3	9.5
Differences				7.71	2.70	1.03	3.86		
Multiplier				.25	1.00	.25	.25		
Totals				1.93	2.70	.26	.97	Total 4.95	
Calculations	1-.0495	.9505	\$7,496	4.95% less than	\$7,866				

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### Results for Schools with 150-249 Students

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
150-249 Students 60%	32	\$6,779	207	31.95%	10.28%	.35%	3.16%	14.1	10.4
150-249 Students <60%	30	\$6,827	192	35.77%	11.16%	1.00%	4.96%	14.1	10.6
Differences				3.82	.88	.65	1.79		
Multiplier				.25	1.00	.25	.25		
Totals				.95	.88	.16	.45	Total 2.45	
Calculations	1-.0245	.9755	\$6,660	1.97% less than	\$6,779				

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### Results for Schools with 250-399 Students

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
250-399 Students 60%	38	\$6,266	314	33.39%	10.33%	1.28%	6.90%	16.1	12.2
250-399 Students <60%	47	\$6,430	321	38.27%	11.04%	1.14%	6.42%	15.7	11.3
Differences				4.87	.71	-.14	-.48		
Multiplier				.25	1.00	.25	.25		
Totals				1.22	.71	-.03	-.12	Total 1.78	
Calculations	1-.0178	.9822	\$6,316	.79% more than	\$6,266				

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### Results for Schools with 400-599 Students

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
400-599 Students 60%	27	\$6,400	477	27.82%	12.42%	1.37%	4.76%	17.3	13.0
400-599 Students <60%	26	\$6,429	493	30.23%	11.85%	1.15%	4.40%	16.8	12.2
Differences				2.40	-.57	-.21	-.36		
Multiplier				.25	1.00	.25	.25		
Totals				.60	-.57	-.05	-.09	Total	-.11
Calculations	1+.011	1.011	\$6,436	.50% more than	\$6,400				

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### Results for Schools with More than 600 Students

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
600 Up Students 60%	15	\$6,834	1164	16.62%	10.35%	.85%	3.95%	16.2	12.9
600 Up Students <60%	9	\$6,896	1206	20.12%	11.46%	.93%	7.61%	7.6	13.1
Differences				3.50	1.12	.08	3.65		
Multiplier				.25	1.00	.25	.25		
Totals				.97	1.12	.02	.91	Total	2.93%
Calculations	1-.0293	.9707	\$6,694	2.1% less than	\$6,834				

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### Required Increase in Spending Based on School Size

School Size	% total Pop.	Est FY06 Exp.	Est. Total	Weight	Required Total Spending	W/O Negative Weight	Required Total Spending
600+ Students	23.2%	\$1.2B	\$279.3M	1.021	\$285.1M	1.021	\$285.1M
400-599 Students	20.0%	\$1.2B	\$240.5M	.994	\$239.2M	1	\$240.5M
250-399 Students	25.7%	\$1.2B	\$308.3M	.992	\$305.8M	1	\$308.3M
150-249 Students	12.9%	\$1.2B	\$154.8M	1.018	\$157.1M	1.018	\$157.1M
50-100 Students	12.9%	\$1.2B	\$155.1M	1.049	\$162.8M	1.049	\$162.8M
0-49 Students	5.2%	\$1.2B	\$62.1	.957	\$59.4M	1	\$62.1
Totals	100%	\$1.2B	\$1.2B		\$1,209.9B +\$9.9M		\$1,216.3B +\$16.3M

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## The Need to Examine Improved Performance

- Absolute performance is just one measure of success, and there is a need to look at improved performance.
- Luckily, recent MontCas results allow for a two year comparison in gain scores.
- Overview of MontCas improvement will be followed by overview on three year gains on Norm Referenced testing.

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### Comparison of Schools that Increased 10% Proficient & Advanced on Reading and Math Sections of MontCAS 2003-04 to 2004-05

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Schools 10% Gain	89	\$6,486	223	36.75	11.19	.58	5.61	15.3	11.5
Schools w/o 10% gain	313	\$6,838	302	27.42	11.08	1.27	5.22	15.6	11.8
Special Pop Differences				-9.3	-.11	.8	-.3	No Discount	
Schools w/o 10% gain sample	89	\$6,738	223	30.68	11.54	.94	4.81		
Special Pop Differences				-6.09	.35	.36	-.80		
Discount rate %				-1.52	.35	.09	-.20	Total -1.27	
Calculations	1-.0127	.9873	\$6,823	4.94% more than	\$6,486	No Increase			

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### Comparison of Schools that Moved 10% of Novice Reading & Math Students Up from 2003-04 to 2004-05 MontCas

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Schools 10% Gain	54	\$6,549	198	39.29	11.44	.22	5.13	15.0	11.2
Schools w/o 10% gain	78	\$6,713	312	33.25	12.34	1.47	5.93	15.5	11.4
Special Pop Differences				-6.04	.91	1.25	.80		
Discount rate %				-1.51	.91	.31	.20	Total -.09	\$6,719
Schools w/o 10% gain sample	54	\$6,935	194	39.07	12.92	1.48	5.88		
Special Pop Differences				-.22	1.49	1.26	.75		
Discount rate %				-.05	1.49	.31	.19	Total 1.91	
Calculations	1-.0194	.9806	\$6,801	3.7% more than	\$6,549	No Increase			

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Schools that Moved 10% of Novice up on Three Sections of Norm Referenced Test 2000-01 to 2003-04

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Schools with 10% on 3 subjects	31	\$6,794	133	43.39	10.72	.19	5.78	13.4	10.0
Schools with out 10% on 3 subjects	44	\$6,717	388	30.99	12.58	1.21	7.1	15.4	11.8
Differences				-12.40	1.86	1.01	1.32		
Multiplier				.25	1.00	.25	.25		
Totals				-3.1	1.86	.25	.33	-.65	
Calculations	1+.0065	1.0065	\$6,761	.48% less than	\$6,794	55.8M increase			

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Schools that Moved 10% of Novice up on Three Sections of Norm Referenced Test 2000-01 to 2003-04 (Sample Group)

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Schools with 10% on 3 subjects	31	\$6,794	133	43.39	10.72	.19	5.78	13.4	10.0
Schools with out 10% on 3 subjects	30	\$7,149	179	41.95	13.50	.79	7.69	14.7	10.7
Differences				-1.44	2.78	.6	1.90		
Multiplier				.25	1.00	.25	.25		
Totals				-.36	2.78	.15	.48	Total 3.04	
Calculations	1-.0304	.9696	\$6,932	1.99 more than	\$6,794	No Increase			

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Overview on Norm Referenced Testing

- Overall, VERY impressive results:
- 204 out of 464 (43.5%) non-American Indian Schools had 75% of students scoring proficient and advanced on all five subjects.
- An additional 35 scored 75%+ on 4 subjects. 51.1% had at least 75% on four subjects.

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### Accreditation: Regular Schools vs. Non-Regular (Sample Groups)

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Schools Regular Accreditation	109	\$7,086	262	30.55	10.14	.59	3.58	14.2	10.6
Schools Non-Regular Accreditation	109	\$7,124	266	31.11	9.85	1.82	5.17	14	10.6
Differences				.56	-.29	1.23	2.15		
Multiplier				.25	1.00	.25	.25		
Totals				.14	-.29	.31	.54	Total .70	
Calculations	1-.0070	.9930	\$7,075	.15% more than	\$7,086	\$2M Increase			

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### Accreditation: Regular Schools vs. Deficiency Schools (Sample Groups)

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
Schools Regular Accreditation	30	\$6,899	224	37.25	10.72	.54	7.66	14.6	10.5
Schools Deficiency	30	\$6,884	241	36.78	9.72	.97	3.84	14.0	10.1
Differences				-.48	-1.01	.43	3.84		
Multiplier				.25	1.00	.25	.25		
Totals				-.12	-1.01	.10	-.96	Total -1.98	
Calculations	1+.0198	1.0198	\$7,020	1.7% Less Than	\$6,899	No Increase			

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### Graduation Rates: 90%+ vs. <90% Sample Schools

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
School More than 90%	30	\$7,748	297	20.05	10.53	.30	3.44	14.6	11.2
Schools with Less than 90%	30	\$7,810	295	23.21	12.18	1.20	3.30	14.3	11.0
Differences				3.15	1.65	.90	-.14		
Multiplier				.25	1.00	.25	.25		
Totals				.79	1.65	.22	-.03	Total 2.63	
Calculations	1-.9737	.9737	\$7,605	1.9% more than	\$7,748	\$23.2M Increase			

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## Comparing Expenditures with Needs Assessment Results

- Examined the "Operations & Materials" components for English, Math, Science & Social Studies.
- Districts were broken into those reporting either 4 or 5 on all five categories as compared to those that reported 1,2 or 3 on all categories.
- Examined Elementary and High Schools needs.

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## Comparison Needs Assessment Elementary 4-5s vs. 123s on English, Math, Science & Social Studies

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
4-5s	31	\$7,110	473	30.50	9.42	.72	3.78	15.3	12.0
1-2-3s	125	\$6,971	781	29.45	11.24	1.21	5.44	15.3	11.6
Differences				-1.05	1.81	.49	1.66		
Multiplier				.25	1.00	.25	.25		
Totals				-.26	1.81	.12	.41	Total 2.09	
Calculations	1-.0209	9791	\$6,825	4.2% Less than	\$7,710	\$50.2M Increase			

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## Comparison Needs Assessment Elementary 4-5s vs. 123s on English, Math, Science & Social Studies (Sample Groups)

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
4-5s	31	\$7,110	473	30.50	9.42	.72	3.78	15.3	12.0
1-2-3s	31	\$7,093	482	25.99	10.02	1.01	2.96	14.9	11.7
Differences				-4.51	.60	.29	-.82		
Multiplier				.25	1.00	.25	.25		
Totals				-1.13	.60	.07	-.21	Total -.66	
Calculations	1+.0066	1.0066	\$7,139	.4% More than	\$7,110				

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### Comparison Needs Assessment High School 4-5s vs. 123s on English, Math, Science & Social Studies (Sample Groups)

Type of School	Number of Schools	Per Pup. Exp. Mean	Enroll Mean	F&R %	Sp. Ed. %	LEP %	AM IN %	Teacher Ratio Mean	Staff Ratio Mean
4-5s	13	\$9,316	252	36.06	12.23	1.68	2.93	11.8	9.2
1-2-3s	13	\$8,384	245	27.13	12.60	.22	1.22	11.6	8.8
Differences				-8.94	.37	-1.46	-1.71		
Multiplier				.25	1.00	.25	.25		
Totals				-2.23	.37	-.37	-.43	Total	-2.66
Calculations	1+.0266	1.0266	\$8,607	8.2% less than	\$9,316	\$102M More			

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### Summary of Successful School Analyses

- Increased funding levels ranged from \$0 to \$100 million using successful school analyses, with most on the lower end of the range.
- Only an initial examination of expenditures associated with the needs assessment was performed, but additional analysis could provide valuable information.

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### Overview of Professional Judgment Methodology

- The goal of the Professional Judgment study was to build on previous efforts undertaken and obtain input from districts across Montana.
- Surveys were sent to 122 districts across the state to provide information to an "expert panel" that would make final determinations of the inputs required to provide a quality education.

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## Overview of Professional Judgment Methodology

- Schools were broken into elementary, middle and high schools, and also by size: very small, small, medium and large.
- The following provides detailed information on the each type of school and will be followed by spending for special programs and total required funding for a quality education.

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## Results of Professional Judgment

- Very Small Elementary Schools: Less than 50 students
- |                  |          |
|------------------|----------|
| Base Cost:       | \$9,833  |
| District Adm.    | \$1,733  |
| Total Cost       | \$11,565 |
| Special Ed Adm*  | \$1,121  |
| Special Ed Cost* | \$10,291 |

\* Cost per special education student

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## Results of Professional Judgment

- Very Small Middle Schools: Less than 50 students
- |                  |          |
|------------------|----------|
| Base Cost:       | \$9,346  |
| District Adm.    | \$1,733  |
| Total Cost       | \$11,079 |
| Special Ed Adm*  | \$1,121  |
| Special Ed Cost* | \$10,291 |

\* Cost per special education student

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## Results of Professional Judgment

- Very Small High Schools: Less than 50 students

Base Cost: \$10,855  
District Adm. \$1,733  
Total Cost \$12,587  
Special Ed Adm\* \$1,121  
Special Ed Cost\* \$10,291

\* Cost per special education student

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## Results of Professional Judgment

- Small Elementary Schools: 50-150 students

Base Cost: \$7,492  
District Adm. \$1,515  
Total Cost \$9,007  
Special Ed Adm\* \$1,656  
Special Ed Cost\* \$10,466

\* Cost per special education student

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## Results of Professional Judgment

- Small Middle Schools: 50-100 students

Base Cost: \$7,203  
District Adm. \$1,515  
Total Cost \$8,717  
Special Ed Adm\* \$1,656  
Special Ed Cost\* \$10,466

\* Cost per special education student

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## Results of Professional Judgment

- Small High Schools: 50-150 students
- |                  |          |
|------------------|----------|
| Base Cost:       | \$6,537  |
| District Adm.    | \$1,515  |
| Total Cost       | \$8,052  |
| Special Ed Adm*  | \$1,656  |
| Special Ed Cost* | \$10,466 |

\* Cost per special education student

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## Results of Professional Judgment

- Medium Elementary Schools: 150-300 students
- |                  |         |
|------------------|---------|
| Base Cost:       | \$5,956 |
| District Adm.    | \$1,275 |
| Total Cost       | \$7,231 |
| Special Ed Adm*  | \$1,657 |
| Special Ed Cost* | \$8,605 |

\* Cost per special education student

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## Results of Professional Judgment

- Medium Middle Schools: 100-250 students
- |                  |         |
|------------------|---------|
| Base Cost:       | \$6,525 |
| District Adm.    | \$1,275 |
| Total Cost       | \$7,800 |
| Special Ed Adm*  | \$1,657 |
| Special Ed Cost* | \$8,605 |

\* Cost per special education student

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## Results of Professional Judgment

- Medium High Schools: 150-400 students

Base Cost: \$6,032  
District Adm. \$1,275  
Total Cost \$7,307  
Special Ed Adm\* \$1,657  
Special Ed Cost\* \$8,605

\* Cost per special education student

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## Results of Professional Judgment

- Large Elementary Schools: 300+ students

Base Cost: \$5,689  
District Adm. \$1,115  
Total Cost \$6,804  
Special Ed Adm\* \$1,091  
Special Ed Cost\* \$10,488

\* Cost per special education student

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## Results of Professional Judgment

- Large Middle Schools: 250+ students

Base Cost: \$5,494  
District Adm. \$1,115  
Total Cost \$6,609  
Special Ed Adm\* \$1,091  
Special Ed Cost\* \$10,488

\* Cost per special education student

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## Results of Professional Judgment

- Large High Schools: 400+ Students
- |                  |          |
|------------------|----------|
| Base Cost:       | \$4,784  |
| District Adm.    | \$1,115  |
| Total Cost       | \$5,899  |
| Special Ed Adm*  | \$1,091  |
| Special Ed Cost* | \$10,488 |

\* Cost per special education student

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## Results of Professional Judgment

- Additional Costs:
- Gifted & Talented Education: \$487 for 12.5% of student population: \$9M
- Pre-School: \$1,206 for 1% of student population \$1.8 Million
- Extended day (\$200) & Summer School (\$200) for all students not scoring proficient or advanced on MontCas: \$13.8M. Est. on 43.6% of students in grades 3-8 and 10 taking test.

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## Results of Professional Judgment

- Additional Base Funding for At-Risk pop.
- Elementary: \$1,193 \$37.2M Total
- Middle: \$1,848 \$20.7M Total
- High: \$2,385 \$32.1M Total

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## Results of Professional Judgment

- Must be noted that additional needs of American Education Students were not identified. Therefore, total expenditures for schools with at least 50% American Indian students adjusted for inflation total: \$134.9M

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## Results of Professional Judgment

- Very Small Elementary: \$38.3
- Very Small Middle: \$31.6
- Very Small High: \$17.9
- Small Elementary: \$79.8
- Small Middle: \$25.8
- Small High: \$44.3
- Medium Elementary: \$172.8
- Medium Middle: \$36.4
- Medium High: \$57.2
- Large Elementary: \$261.4
- Large Middle: \$140.8
- Large High: \$221.8

Total: \$1.128 Billion

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## Results of Professional Judgment

Continued from previous page: Total: \$1.128 Billion

Gifted & Talented:	\$9 Million
Pre-School:	\$1.8 Million
MontCas Novice & Near Proficient:	\$13.8 Million
Elementary At-Risk:	\$37.2 Million
Middle At-Risk:	\$20.7 Million
High At Risk:	\$32.1 Million
American Indian School Exp.	\$134.9 Million
<b>Total:</b>	<b>\$1.383B (includes numbers not round up)</b>

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## Results of Professional Judgment

Should be noted that the estimated expenditure of \$1.2 Billion for FY 2006 may be slightly lower. It would be fair to say that the Professional Judgment approach anticipates a \$200 million increase.

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## Evidenced Based

- Preschool
- Full Day Kindergarten
- Full-Time Building Principal
- Family Outreach
- Professional Development
- Cost of Technology

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## Evidenced-Based

- Pre-school - it is projected that 1/2 day Kindergarten would cost in the area of \$ 11 Million the first year. (assumes no utilization of present teachers, thus this is a high projection for the first year)
- Full Day Kindergarten- at present have not been able to make projections based on data.
- Reduction of Class Size -based on data, limited projections are made in other sections of this report.
- Technology - Addressed under Facilities.

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### Evidenced Based (continued)

- Full Time Building Principals-Within certain parameters and the acknowledgement of isolated schools limited projections are shown elsewhere in this report.
- Family Outreach-Presently, we are not able to make projections other than utilize limited observations in other states.
- Professional Development - Based on an extended school year model the projection is approximately \$ 3.6 Million the first year.

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### Evidenced-Based Firm Projections for the First Year of Implementation

- \$ 14 Million in Earmarked Programs would seem to be a reasonable projection. It is vital to note that the Legislature should implement these types of programs on a pilot/limited basis and evaluate each program. Thus the \$14 Million projection could be limited for the first year.

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### Education Commission of the States- Funding Issues for Small & Isolated School Districts

- ECS examined 15 states due to the preponderance of small schools & districts found in these states.
- The 15 states included: Alaska, Arkansas, Idaho, Kentucky, Maine, Minnesota, Mississippi, New Hampshire, North Dakota, Oregon, South Dakota, Vermont, Washington, West Virginia & Wyoming.

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### Small & Isolated Schools/Districts

- Small schools/districts are defined by these states with enrollments that fall below a legislatively defined range e.g., 50 or 100 students.
- Isolated schools refers to schools that are geographically isolated and required additional resources. Other terms include: remote and necessary schools, small and remote, separate schools. Isolated schools often, but not always, have low student enrollment.

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### Identification of Isolated Schools

- Isolated schools are accounted for in the education finance distribution formula in Arkansas, Idaho, Minnesota, North Dakota, Oregon, Vermont, Washington, West Virginia & Wyoming. Most of these use a combination of factors including:
  - Geographic distance from one school to the next.
  - Geographical barriers
  - Site of the school/district
  - Density of the local population

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### Geographical Considerations

- Identification of isolated school districts varies:
  - Arkansas = 12 miles to the nearest school
  - Idaho = 10 miles (Elem) to the nearest school and 15 miles (sec)
  - Minnesota = 19 miles (Elem)
  - North Dakota = 15 miles (Elem) and 20 miles (sec)
  - Oregon = 8 miles (K-8)
  - Washington = travel time not to exceed 1.5 hrs.

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### Additional Multiple Considerations

- Arkansas = a defined geographical size, density ratio of less than 1.5 students/sq. mile, less than 50% paved roads, geographical barriers present.
- Minnesota = formulas based on district size & distance from other schools to determine an isolation index.
- West Virginia & Wyoming only require approval of state superintendent. Idaho & Washington districts must meet all definitions and approval of state board of education.

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### Maximum Size of Isolated School Districts

- Arkansas = 350
- Minnesota = 140 (Elem) 400 (sec)
- North Dakota = 50 (Elem) 35 (sec)
- Oregon = 224 (k-8) 350 (sec)
- Vermont = 100
- Washington = 100 (k-8) 300 (sec)
- West Virginia = 1400 per county/district
- Wyoming = 263 (Elem) 299 (mid) 599 (HS)

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### State Supplements

- Minnesota = supplemental grant from 1-100%
- North Dakota = increase of per student weighting factor by 20%
- Oregon = supplemental grant from 0.3-100%
- Vermont = supplemental grant up to \$2,500/student
- Washington = additional funding for full-time teacher positions.

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## Montana Formula Distribution Constructs

Tier I Districts Basic Classroom Unit (including Weights) below an Individual Student Count.

- Tier 1A Districts = Elementary Districts < X
- Tier 1B Districts = Secondary Districts < X
- Tier 1C Districts = k-12 Districts < X
  
- Basic Classroom Unit would account for sparsity adjustment
- BSU calculated based on these data within this report

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## Formula Constructs-Tier II Districts-(Non-Basic Classroom Districts-Differentiated for II-A, II-B, II=C Classifications)

- FTE X Program Weights
- Program Weights e.g.
- Grade Levels,
- Special Education,
- English Secondary Languages Speakers,
- Poverty Base Student Allocation.
  
- (This results in a Weighted Full Time Equivalent Student in actual attendance)

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## Formula Constructs

- WFTE is then multiplied by the BSA
- (BSA) based on research as presented within the range of this report.
- The BSA should be recalculated at least every other year.

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## Formula Constructs

- This BSA is then multiplied by a Teacher Cost Index.
- The TCI should be based on a regional basis.
- The TCI should be updated periodically.
- The TCI applies to low paying districts/ isolated districts

The initial TCI construct should be based on the Young/Stoddard Report

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## Declining Enrollment Supplement

Tier II- A, B, & C School Districts would receive a Declining Enrollment Supplement equal to the average enrollment of the present year to the previous academic year. Tier II, A, B, & C School Districts could decrease enrollment to qualify for a Tier I, A, B, or C School District.

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## Quality Schools Structure

- General Operating Fund
  - Salaries/Fringe Benefits
  - Instructional Programs
  - Selected Categorical Programs e.g. Low Achieving Schools, Retirement Programs, Insurance Programs
- Major Capital Maintenance/Improvements
  - Technology
  - Health/Safety/Maintenance Needs
- Debt Service Fund (Long-Term Capital Outlay)

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## Formula Constructs

- All of this to this point indicates the total spending for each school district
- From this total expenditure, the Required Local Effort is subtracted.
- Each District's Required Local Effort is the product of the millage rate times the assessed valuation. The assessed valuation must be in a consistent relationship to the retail value pursuant to state statutes. The local wealth must be consistently appraised, and certified by the state, in relation to all other school districts.

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## Formula Constraints, Limitations & Conditions

- This type of formula determines the spending level of every school district so as to protect the state treasury as well as the local taxpayers in guaranteeing a quality public education.
- These constructs do not necessarily lead to efficient school districts.
- Therefore, the legislature must periodically review levels of efficiency.
- Those districts that are failing to achieve as measured by the state and/or failing to meet accreditation standards/HB 152 standards must be unified with other districts or taken over by the state

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## Tier I and Tier II Districts

- Tier I Basic Classroom Unit Expenditures based on predetermined costs for those districts below a certain enrollment point that differs by organizational structure Tier 1, A, B, C Districts.

Above this predetermined enrollment figure the Districts become Tier II Districts based on organizational structure making them Tier II, A B, or C Districts

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## Quality Schools in Montana

- These studies offer the state of Montana a window of opportunity in reforming public education and building quality education for every child within the state.

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