

# **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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## Table of Contents

Executive Summary	3
Background of Study and R. C. Wood & Associates	7
Comparison of Montana to other States	11
Evidenced Based Methodology	16
Needs Assessment and Statistical Analysis	21
Professional Judgment Analysis	87
Indian Education Achievement Gap Analysis	101
Successful Schools Methodology	107
Design of an Education Finance Distribution Formula	138
Appendices	141

## **Executive Summary**

The Montana State Supreme Court issued its decision on March 22, 1995 in the matter of *Columbia Falls v. State*.

The Montana State Supreme Court determined that the Legislature would have to fund a ‘quality’ system based on its own Legislative definition. As a result of this directive the Legislature adopted Senate Bill 152 in which it defined a quality public elementary and secondary school system.

The Montana State Legislature formed the Joint Select Committee on Education Funding and subsequently the interim Quality Schools Committee. The Legislature and the committee developed a request for proposal for technical assistance in attempting to determine the cost of providing an adequate education in the state of Montana. This technical support was to assist in determining the cost of meeting the adequacy principles as defined by the standards of Senate Bill 152. As a result of this need, R. C. Wood & Associates was contracted to:

Provide recommendations and assistance to staff in the design of a study, the collection of data, and in the analysis and evaluation of information necessary to assess the educational needs of Montana’s public schools based on the definition of a basic system of free quality public elementary and secondary schools, as provided by the Montana Legislature in Senate Bill No. 152.

Provide guidance in the determination of the costs of a basic system of free quality public elementary and secondary schools in the state of Montana;

Provide recommendations on the level of funding needed to support the educationally relevant factors outlined in Senate Bill No. 152; and

Provide recommendations and assistance in the development of a funding mechanism that is based on the cost analysis and that ensures the equitable distribution of the State’s share of the costs of a basic system of free quality elementary and secondary schools, as defined in Senate Bill No. 152.

R. C. Wood & Associates is a firm based in Gainesville Florida that conducts state and local education finance studies for policy makers. It has conducted a number of studies for state legislatures, as well as other educational organizations.

The overall methodology utilized to identify the costs associated with this task utilizes four approaches, each of which has its strengths and weaknesses. Each of the four approaches was purposefully utilized for determining the cost of providing a basic system of free and quality public elementary and secondary education as defined by the State Legislature of Montana. The four methodologies were:

- The successful school/school district approach.
- The professional judgment model approach.
- The evidence-based model approach, and

- The advanced statistical analysis approach.

As a result of comparing the state of Montana with other selected states the overall policy observation was offered as to the conclusion that the state of Montana faces a series of fiscal challenges if it is to fund a quality education. These fiscal challenges are exacerbated given the number of small schools and small school districts and the necessary state and local funding to meet the legislative mandates of a quality education. The critical element is to identify isolated schools and school districts as opposed to simply funding all small schools and school districts. Thus, this essential policy issue must be addressed in understanding the distinctions between small isolated schools and school districts from that of simply small schools and school districts.

### **Evidence Based Methodology.**

The Evidenced Based methodology is built on the approach of what educational strategies and concepts appear to be most successful in improving achievement in the public elementary and secondary schools. For purposes of this study, this approach concentrates its methodology toward organization variables that can be directly funded via a state education finance distributional formula. The Evidenced Based approach is essentially an identification of the research literature as to the organizational and delivery variables.

Utilizing the Evidenced Based Methodology yield a projection of \$ 20.6 Million additional expenses to the overall state expenditure level for public elementary and secondary education for the state of Montana.

### **Needs Assessment and Statistical Analysis**

The cost of adequately providing a quality education may be measured directly from the definition of the state legislature. The definition provided by the Montana Legislature for this study addressed this difficulty in a manner that provided for varying degrees of quantification by examining a combination of perspectives for the educational needs of Montana's youth. The components of SB 152 served as the substance of the statutory definition of a quality education. Based on this methodology the increased costs to the overall expenditure for public elementary and secondary education is projected to be approximately \$ 34.4 Million

### **The Professional Judgment Approach**

The Professional Judgment approach was utilized for a view of the costs of providing a quality education and as a subset; providing a quality education for students. Separate professional judgment panels were convened and each determined, within parameters, the costs of offering a quality elementary and secondary education in the state of Montana. Typically, the professional judgment approach results in the highest cost estimates of the four models that are utilized. Based on this methodology the increased costs to the overall expenditure for public elementary and secondary education is projected to be approximately \$ 329 Million.

## **Indian Education Achievement Gap Analysis**

Montana is unique regarding its public elementary and secondary educational needs. One of the major public policy issues is the number and the achievement issues of American Indian children who are present within the public schools throughout the state. Based on this methodology the increased costs to the overall expenditure for public elementary and secondary education is projected to be approximately \$ 16 Million.

## **Successful Schools Analysis**

The process of identifying expenditure information for schools meeting specified performance measures is known as the “successful school/school district” method for determining adequacy. Based on this methodology the increased costs to the overall expenditure for public elementary and secondary education is projected to be approximately \$ 96.2 Million.

## **Design of a New Education Finance Distribution Formula**

The projected costs as determined by these four methodologies reflect amounts that would represent the increases in year one of the total spending, both state and local, for the purposes of funding public elementary and secondary education.

It is critical to understand that the state legislature has defined what a quality education is and has identified the components of a quality education. The legislature will decide the new state aid distribution formula and the appropriate means of allocating state and local moneys for the support of public elementary and secondary education. Under no circumstances should one view the implementation of SB 152 to be the total fiscal responsibility of the state. To do so, would be to preserve small, not isolated school districts, and to preserve the inequities of the present system. In fact, to do so would merely mean that the wealthiest school districts of the state would continue to be subsidized by the state and continue to offer vastly superior programs as compared to the poorest school districts of the state. Thus, this conceptual formula funds the standards of and brings to the state a high degree of fiscal equity.

It is recommended that small and isolated school districts be grouped into a Tier 1 cluster in which school districts receive funding based on a Basic Classroom Unit (BCU). These small and isolated school districts would receive an amount per classroom regardless of district enrollment below a certain enrollment number.

It must be stressed, throughout this discussion of the state education finance distribution formula that the term small and isolated school districts is a critical component and does not mean simply small school districts.

The state would determine the total spending of each student by beginning with a Base Student Allocation (BSA), the BSA calculated based on these data within this report.

The same consideration should apply to all of the accreditation standards and components of SB152. That is, the formula should be such that it adequately funds, via the BSA, each component of SB152 and so identifies appropriate funding amounts. Doing so provides the state with the needed rationale for its determination of funding amounts and purposes for funding.

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 examined as to the alternatives available to the state.

Overall, this examination along with the deliberations of the state legislature offer the state of Montana a window of opportunity in reforming public education and building quality education for every child within the state.

## **Background of Study and R. C. Wood & Associates**

The Montana State Supreme Court issued its decision on March 22, 1995 in the matter of *Columbia Falls v. State*.<sup>1</sup> The court directed the Legislature to a basic system of free quality public elementary and secondary education and that it fund the distributional formula in an equitable manner.

The Montana State Supreme Court determined that the Legislature would have to fund a ‘quality’ system based on its own legislative definition. As a result of this directive the Legislature adopted Senate Bill 152 in which it defined a quality public elementary and secondary school system.

Further, the Montana State Legislature formed the Joint Select Committee on Education Funding and subsequently the interim Quality Schools Committee. The Legislature and the committee developed a request for proposal for technical assistance in attempting to determine the cost of providing an adequate education in the state of Montana. This technical support was to assist in determining the cost of meeting the adequacy principles as defined by the standards of Senate Bill 152. As a result of this need, R. C. Wood & Associates was contracted to:

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R. C. Wood & Associates is a firm based in Gainesville Florida that conducts state and local education finance studies for policy makers. It has conducted a number of studies for state legislatures, as well as other educational organizations, the president of the firm has served numerous times as expert witnesses in education finance constitutional challenges in a number of states. The firm is owned and operated by Dr. Craig Wood who is one of the nation’s leading authorities regarding the financing of public elementary and secondary education. He is noted for over 200 scholarly publications in noted academic journals as well as several leading texts in the field. Each project that the firm conducts is staffed by nationally and state known individuals who bring a unique expertise and knowledge to each project. For this project the contributors consisted of Dr. Don Robson, former Dean of the College of Education at the University of Montana and noted Montana authority regarding public education in the state.

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<sup>1</sup> 109 P.3d 257.

Additionally, Steve Smith a private educational finance consultant based in Denver who has conducted a number of statewide studies for legislatures was a main member of the research team. Dr. Merle Farrier, professor of education finance at the University of Montana and noted Montana education finance authority also was a main investigator of the research team. Joyce Silverthorne, a noted American Indian educator contributed to the overall study as well as the examination of the issues facing native American education within the state. Michael Griffiths of the Education Commission of the states who has written extensively regarding public education at the national level also was a member of the research team.

The overall methodology utilized to identify the costs associated with this task utilizes four approaches, each of which has its strengths and weaknesses. Each of the four approaches was purposefully utilized for determining the cost of providing a basic system of free and quality public elementary and secondary education as defined by the State Legislature of Montana. The four methodologies were:

- The successful school/school district approach.
- The professional judgment model approach.
- The evidence-based model approach, and
- The advanced statistical analysis approach.

### Educational Adequacy

Several states have attempted to determine the adequacy of public education. An overview of these adequacy studies reveals an increase of from approximately 30 to 50 percent of expenditures that would be necessary to meet an adequate level for public education. The state of Montana has defined a quality education. Thus the research team is able to utilize these definitions and apply four different research methodologies in order to ascertain.

### The Measurement of Educational Adequacy<sup>2</sup>

Determining the adequacy of public elementary and secondary education is, at best, a difficult task. In attempting to determine adequacy there are several models currently in practice. It is important to note that the political, economic, and demographic context of each state is different. The state of Montana is uniquely different in that it is highly rural, sparsely populated, dominated by small districts, and small and isolated school districts.

### Types of Adequacy Studies

There are several different approaches to measuring fiscal adequacy in public elementary and secondary education.

- The successful school/school district approach.
- The professional judgment model approach.
- The evidence-based model approach, and
- The advanced statistical analysis approach.

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<sup>2</sup> This portion of this paper is adapted from *Financing Missouri's Public Elementary & Secondary Schools: Final Report*, report to the Missouri Joint Interim Committee on Education of the Missouri General Assembly, R. C. Wood & Associates, Feb. 2004.

Successful schools studies utilize outcome data on measures such as attendance and dropout rates and student test scores to identify that set of schools or school districts in a state that meet a chosen standard of success. Then, the average of the expenditures of these schools or school districts are considered adequate (on the assumption that some schools in the state are able to be successful with that level of funding)

In professional judgment studies, focus groups of educators and policymakers are typically convened to prescribe the “basket of educational goods and services” required for providing an adequate education.

In evidence-based studies, resource needs for staffing and staff development are derived from “proven effective,” strategies. More recent evidence-based analyses have striven to integrate a variety of “proven effective” input strategies such as class size reduction, specific interventions for special student populations, and comprehensive school reform models, rather than relying on a single reform model.

### Statistical Modeling Studies

Less common among analyses of educational adequacy are statistical methods that may be used either to estimate (a) the quantities and qualities of educational resources associated with higher or improved educational outcomes or (b) the costs associated with achieving a specific set of outcomes, in different school districts, serving different student populations. The first of these methods is known as the education production function and the second of these methods is known as the education cost function. The two are highly interconnected.

### Reconciling the Various Approaches

In a perfect world, with perfect information regarding the relationship between resource mix and student outcomes, perfect data regarding student outcomes and perfect measures of school district inefficiency, resource cost and statistical cost function analysis would produce the same results. All distortions to or differences in cost estimates would be eliminated in each type of analysis.

Ideally, education finance researchers utilizing resource cost approaches for calculating the cost of adequacy would have perfect information regarding the lowest cost mix of resources that would lead to the desired educational outcomes for a given set of students under a given set of conditions. As noted, resource mix is most often arrived at not by estimating the relationship between resource mix and existing student outcomes, but either by the recommendations of expert professional judgment panels, or by identifying specific educational reform models believed by researchers to be effective. To date, evidence on the effectiveness, and more specifically the cost effectiveness of comprehensive school reforms that commonly guide such analyses remains questionable at best.<sup>3</sup>

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<sup>3</sup> H. Levin, The Cost Effectiveness of Whole School Reforms. Urban Diversity Series No. 114. Eric Clearinghouse on Urban Edu. Inst. for Urban and Minority Education. G. Borman and G. Hewes (2002) The Long-Term Effects and Cost Effectiveness of Success for All. *Educational Evaluation and Policy Analysis* 24 (4) 243 – 266 and G. Borman, G. Hewes, L. Overman and S. Brown (2003) Comprehensive School Reform and Achievement: A Meta-Analysis. *Rev. of Educ. Research* 73 (2) 125-230. R. Bifulco, C. Bordeaux, W. Duncombe and J. Yinger, *Do Whole School Reform Programs Boost Student Performance? The Case of New York City*. Smith-Richardson Found.

Where the prescribed resource mix is not the most efficient mix that could be purchased at a given total cost, resource cost analyses will lead to distortions in cost indices and these distortions may or may not apply uniformly across school districts of varied scale or of varied student populations. For example, resource intensity required to achieve specific outcomes in a certain type of school district may be overstated by expert panels or prescribed models. It is safe to assume that most cost indices produced by resource cost analyses include at least some such distortion.

Similar problems exist in the estimation of statistical models of costs. Statistical models of costs rely on existing school district expenditure data, and estimated relationships between expenditure data and current levels of student outcomes. Attempts are made to subtract inefficiencies from expenditure data. That is, it is possible that a school district with a specific set of characteristics currently spends more than necessary to achieve its current level of outcomes. Further, it is possible that common patterns of inefficiency exist across all, or similar sets of school districts in a given state.

### **Commentary on Adequacy Analyses**

Various methods for estimating the cost of an adequate education and how costs vary by school district and student characteristics each have strengths and weaknesses. It is safe to say, however, that some methods are stronger and more empirically valid, at least for some purposes. The connection between resources and outcomes proposed in professional judgment analyses is at best, speculative.

Thus, the team of investigators will be able to offer a range of options that will be presented due to the inherent variations of these approaches. The overall approach of utilizing multiple lenses is due to the inherent weaknesses of each model. It is important to note that the virtually all state-level assessment of this nature have, to date, utilized one or two methodologies and thus are somewhat limited by the overall design. Further, state-level assessments utilizing these methodologies do not generally acknowledge the limitations of each model. Thus, the use of these four models is strength to this study and does, in fact, advance the understanding of this very complex problem for the state of Montana. It is the purpose of this designed as utilized within this study to overcome this limitation as to analyze all reasonable possibilities and thus offer observations that are by design, more robust and reflective of the complex question that is posed by the this public policy issue and the very complex nature of the design.

Additionally, it must be noted that these methodologies attempt to determine the cost of providing a quality education as defined by the Legislature. Additional research is presented examining the costs associated with teacher compensation in a separate report as well as recommendations for the distribution of the moneys for public elementary and secondary education.

# **A Comparison of Montana Regarding State Funding Issues for Small and Isolated Schools and Districts**

The issue of how the state of Montana can best fund both its small schools/districts as well as those that are “isolated” is an important component to the state’s overall education finance distribution formula. Due to the realities of the diseconomies of scale involved, small and isolated schools have different fiscal costs that relative mid- and large-size school districts do not experience.

To assist the Montana Legislature eleven state education finance funding distribution formulas were examined to determine the actual additional funding regarding the funding of small and isolated schools and districts. The states chosen for this study were: Alaska, Arkansas, Idaho, Minnesota, North Dakota, Oregon, South Dakota, Vermont, Washington, West Virginia and Wyoming. These eleven states were chosen for review due to the preponderance of small schools and districts within the public elementary and secondary public school systems.

## **Isolated versus Small Schools**

The term “small schools/districts” in state education finance distribution formulas measures and reflects those schools/districts with student enrollment numbers that fall within a legislatively defined range – often under fifty or one hundred student enrollment. The term “isolated schools” is utilized to refer to schools that are geographically isolated and require additional fiscal resources to provide educational services students. Certain states education finance distribution formulas utilize terms other than isolated, including: “remote and necessary schools,” “small and remote schools,” and “separate schools.” These isolated schools often, but not always, have relative low student enrollments that would also define these sites as small schools.

## **Funding Small Schools**

Four of the states examined in this study (Alaska, Idaho, North Dakota, and South Dakota) have adjustments within the education finance distribution funding formulas for small schools or school districts regardless of whether the schools/school districts are geographically isolated. Each of these four state legislatures utilize different formulas to provide this specific additional funding to these small schools:

- **Alaska:** Provides additional funding for those schools with student enrollments of 250 students or less. This additional funding is distributed to schools by allowing these schools to increase the student count numbers – schools with real student enrollments of less than twenty students are allowed to report an enrollment of 39.6 students – this increase in reported student enrollment decreases until there is no benefit for schools of over 250 students.
- **Idaho:** The education finance distribution formula funds teaching positions, which are based on a set teacher-student ratio. In the state’s formula the smallest school districts (under 33.5 students) receive one paid teacher position for every twelve students while the largest school districts (those with 300 students or more) receive one paid teacher position for every twenty to twenty-three students (based on the students’ grade level).

- **North Dakota:** The education finance distribution formula provides additional funding to small school districts in order for these districts to increase the student counts for school funding purposes. High school districts with less than seventy-five students can increase the student funding counts by up to 62.5 percent. One-room elementary schools can increase the student counts by up to 28 percent for funding purposes, while other elementary districts with fewer than one hundred students can increase the student counts by up to 9 percent. Those high school districts with between 75 and 149 students can increase the student counts by up to 33.5 percent.

**South Dakota:** the state education finance distribution formula provides additional funding to small school districts by allowing these school districts to increase the student counts for school funding purposes. School districts with less than 200 students can increase the student counts by 20 percent for the purpose of school funding.

### **Identification of Isolated Schools**

Nine of the states reviewed for this study have special provisions for isolated schools in the education funding distribution formulas. These states include: Arkansas, Idaho, Minnesota, North Dakota, Oregon, Vermont, Washington, West Virginia, and Wyoming.

Each of these nine states utilize a combination of factors to define what determines the definition of an isolated school. The factors used include: geographic distance from one school to the next, the presence of a geographic barrier, the size of the school or school district, and/or the density of the local population. In addition to measurable factors some states legislatures rely on the judgment of state policy leaders to determine if a district should qualify as isolated in the state's education finance distribution formula.

### ***Geographic Considerations***

Six of the states in this study utilized physical distance from other schools as an identifier of an isolated school. Of these, five utilize mileage from one school to the next as the identifier of isolated schools. In these five states the distances range from eight miles from the nearest school in Oregon, to twenty miles in North Dakota. The state of Washington utilizes a slightly different approach – the legislature defines a school, as being isolated if a student were to travel a distance of one hour or more to reach the school. The following are the measures used in each of these six states:

- Arkansas: There must be a distance of twelve miles to the nearest school.
- Idaho: There must be a distance of ten miles for elementary schools, or fifteen miles to the nearest secondary school.
- Minnesota: There must be a distance of at least nineteen miles to the nearest elementary school.
- North Dakota: There must be a distance of fifteen miles to the nearest elementary school or twenty miles to the nearest secondary school.
- Oregon: There must be a distance of eight miles to the nearest school (K-8).
- Washington: There must be a travel time of one hour or more for students.

## **Other Considerations**

The states of Arkansas, Minnesota and Washington utilize distance as part of the definition of isolated schools and also apply other criteria as identifiers within the general state education finance distribution formula. To be defined as isolated, the state of Arkansas requires school districts to meet all the following requirements in addition to the set distance from other schools;

- The school district fits within a defined geographic size,
- The school district have a “density ratio” of below 1.5 students per square mile
- Less than 50 percent of the roads in the school district are paved, and
- There must be a geographic barrier to the transportation of students between the district and neighboring schools.

The state of Minnesota utilizes a formula for identifying secondary schools as isolated. This formula uses a combination of school district size and distance from other schools and is referred to as the “Isolation Index.”

For a school to be defined as isolated in the state of Washington the school district must not only meet the geographic isolation definition but also have the presence of an “intact and permanent community.”

## **State Approval**

In the states of West Virginia and Wyoming, school districts do not need to meet any pre-set definitions to qualify as an isolated school. School district officials must secure the approval of the state superintendent. In the states of Idaho and Washington, school district officials need to meet both the pre-set definitions of an isolated school, and the approval of the state board of education.

## **Maximum Size of an Isolated School/District**

Eight of the nine states legislatures that allow for additional funding for isolated schools have created a cap on how large a school or school district can be and still qualify as isolated (Idaho is the exception). The states of Arkansas, Minnesota, Vermont, and West Virginia have maximum size limits for school districts. These size limits range from 100 in Vermont to 1,400 in West Virginia students per school district. The states of North Dakota, Oregon, Washington, and Wyoming have school-size caps regarding the definition of isolated. These size caps range from thirty-five students per school in North Dakota to 599 in Wyoming. The following are the caps that each of the eight state legislatures has developed:

- Arkansas: A school district’s average daily membership is less than 350 students.
- Minnesota: A school district’s average daily membership is no more than 140 for elementary schools and no more than 400 for secondary schools.
- North Dakota: Average daily membership of no more than fifty students for elementary schools and no more than thirty-five students for secondary schools.
- Oregon: Average daily membership per school of no more than 350 for high schools or 224 for K-8 schools.

- Vermont: Average daily membership below 100 students per school district (based on a two-year average).
- Washington: Average daily membership per school of no more than 300 for a secondary school or 100 for a K-8 school.
- West Virginia: Average daily membership of less than 1,400 per school district.
- Wyoming: Average daily membership per school of no more than 599 for a high school, 299 for a middle school, or 263 for an elementary school.

### **Additional Funding for Isolated Schools**

Once a state legislature has designated a school or school district as being isolated the amount of additional funds the school district is entitled to, and the way those funds are distributed, varies from state to state. In the states of Idaho, West Virginia, and Wyoming, the amount of additional funding that is provided to an isolated school or school district is at the discretion of state policymakers. In Idaho, any additional funding for isolated schools is left to what the State Board of Education determines is needed to provide students with an adequate education in the school district. In both the states of West Virginia and Wyoming, any supplemental grants for isolated schools and school districts are left to the discretion of the state's superintendent of public education.

The remaining six state legislatures provide funding to isolated schools or school districts on a sliding scale based on the school or district's size. The details of each of these funding systems are as follows:

- Arkansas: Modification of funding distribution formula to provide additional funds based on school size.
- Minnesota: Supplemental grant increasing the per-student allowance by 1-100 percent, depending on school size.
- North Dakota: Modification of funding distribution formula, increasing the per-student weighting factor by 20 percent.
- Oregon: Supplemental grant increasing the per-student allowance by 0.3-100 percent, depending on school size.
- Vermont: Supplemental grant of up to \$2,500 per student based on school size.
- Washington: Modification of funding formula to provide additional funding for full-time teacher positions.

### **Observations**

In Montana 54.4 percent of the public schools have enrollments less than one hundred students. Nationally, only the state of South Dakota (54.6 percent) has a higher percentage of small schools.<sup>4</sup> The percentage of schools across the United States with student enrollments less than one hundred is 10.8 percent, which is 43.6 percent lower than Montana.

Comparing national student enrollment numbers to Montana, however, may not be as telling as comparing Montana's school numbers with other rural western states. The seven rural western states that have comparable demographics to Montana include Alaska, Idaho, Nebraska, Kansas, North

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<sup>4</sup> National Center for Educational Statistics, *Overview of Elementary and Secondary Schools and Districts: 2001-2002*. Washington, DC, May 2003.

Dakota, South Dakota and Wyoming, which have 32.1 percent of public schools with enrollments of less than one hundred students. Currently 70 percent of the state's high schools have fifty students or less while only 40 percent of the state's elementary schools have enrollments that low.

### **Major Policy Recommendation**

In summary, the state of Montana faces a series of fiscal challenges if it is to fund a quality education. These fiscal challenges are exacerbated given the number of small schools and small school districts and the necessary state and local funding to meet the legislative mandates of a quality education. The critical element is to identify isolated schools and school districts as opposed to simply funding all small schools and school districts. Thus, this essential policy issue must be addressed in understanding the distinctions between small isolated schools and school districts from that of simply small schools and school districts.

## **Evidence Based Methodology.**

The Evidence Based methodology is built on the approach of what educational strategies and concepts appear to be most successful in improving achievement in the public elementary and secondary schools. For purposes of this study, this approach concentrates its methodology toward organization variables that can be directly funded via a state education finance distributional formula. Specific classroom curricular strategies are not discussed, as these activities will be a function of teacher training, professional development, and the implementation of programs.

The Evidence Based approach is essentially an identification of the research literature as to the organizational and delivery variables identified in the literature. It must be clearly stated that such literature varies greatly as to its generalizability and its level of rigor and research protocols utilized. Every effort has been made by the study team to identify those concepts in the literature that appear to be relatively rigorous and meet any standard of reasonableness. Furthermore, these studies and professional opinions must exist within the mainstream of professional opinion. Further, in many instances much of the research literature is heavily based on case studies, limited generalizability, and small numbers of subjects. Notwithstanding these severe limitations, many of the studies are replicated in numerous settings, have been applied in different settings, and are clearly within the mainstream of professional judgment.

It is exceedingly rare that in the research of education that the study is based on the random assignment of groups and the random application of treatment to the groups. Unlike many scientific disciplines, public elementary and secondary education does not apply random assignment of treatments and to groups. The bulk of educational research is generally a post hoc evaluation of what plans are successful and which plans are not successful. Thus, even with these limitations, certain strategies emerge as deemed successful in its reliability and consistency. Further complications may be present in the reality of multiple strategies being attempting at the same time thus making it difficult to clearly ascertain which strategy was in fact the most successful.

Further, by design, the research team has identified, within the time constraints of the project those processes that appear to be rather tangible to determine the cost and the delivery issues of implementing pilot programs for further evaluation and possible expansion or elimination. Again, further analysis could very well identify specific curricular strategies that may be highly worthwhile and these strategies are outside the confines of the report and the need to be developed via further rigorous investigations and the specific applications to the state of Montana.

The research team has identified a number of delivery strategies that should be reflected in the education finance distributional formula. It is critical to note that the state of Montana has unique characteristics, which the research team is highly aware of and has taken into account. These specific and highly unique differences are many very small schools due to the sparsity of population and a relatively high number of Native American children residing in federal reservations. These include the following concepts:

The Evidence Based strategies as identified within this report are as follows:

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

## **Pre School**

Professional opinion and research consistently tends to suggest a positive relationship between quality pre school programs and student achievement in the higher grades.<sup>1</sup> Thus, it is strongly suggested that the legislature give considerable consideration to establishing, at least on a pilot basis, pre-school programs for those school districts that exhibit the greatest need. Need, for purposes of this report is defined as the relative low achievement on state-wide tests, the greatest number of children in poverty as measured by the Free and Reduced price Lunch program, or some combination of these two measures. Such pre-school programs could be established on a pilot basis based upon application of school districts. Based on selected criteria, successful programs were reasonably established could be then extended to other school districts based on these selected criteria. The cost of such implementation would be a reflection of the appropriation and the costs of each application. For purposes of discussion an amount of \$ 5 Million could be appropriated for the first year of the program. No such valid data exists for generalizability and application for the state of Montana. The \$ 5 Million appropriation would then be implemented in selected school districts.

If, the state chose to extend the present 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)

## **School Size**

The effective school literature speaks to the issue of school size and the positive results associated with smaller schools. The vast majority of schools in the state of Montana are extremely small due to the nature of the geography, demographics, and the organizational structure that has occurred over time. It is the view of the research team that even if the organizational structure were organized for greater efficiency, that is, fewer school districts, the number of small schools would not decrease in any significant manner. While cost projections have been made for several states regarding school size, this particular variable has no significant impact in the state of Montana and thus no additional costs can be forecast for this specific reform activity.

## **Class Size Reduction**

The issue of reducing class size is based on the research literature that suggests a correlation between class size and achievement. While much of this literature is somewhat limited, more literature tends to support this concept when applied to the lower elementary grades. It is important to note that when issues such as social behavior, identification of special needs, and future difficulties in school are able to be identified at an earlier phase, these students tend to be more successful in the schooling process. The issue of class size is one of tremendous debate even within the public domain as well as that of the research literature. While reducing class size is intuitively felt to increase learning there is little pure research evidence that demonstrates this relationship. Notwithstanding this limitation there is a great

deal of evidence that suggests that lowering class size at the early elementary levels, e.g., K, 1, 2, 3, results in a host of positive relationships to learning and social behavior. Additionally, teachers and schools have greater opportunity to identify children who are in special needs categories.

Costing out such programs for the state of Montana is problematic. The only school districts that might benefit from this activity are those associated with the relative urban areas of the state. The research team cannot specifically identify the costs of class size reductions, that is, additional teacher salaries, benefits, teacher aides, as well as space requirements and the costs of assumed debt to build additional classroom space.

Thus, the research team suggests that the state give serious consideration to an appropriation of e.g., \$ 5 Million for the study, identification, and funding of those districts that might qualify for state grants to lower class size in those affected school districts.

### **Full Time Building Principals**

The research literature indicates the necessity of having full time building principals in every school. The limitations of these research studies are that these studies utilize schools that are, as a generality, significantly larger than most schools in the state of Montana. Thus, overall, the research that has emerged to date does not appear to be applicable within the state of Montana. Thus, no cost is projected at this point. That is to say, even with major restructuring of school districts and the likelihood of the elimination of small, (not isolated) school districts the actual number of schools and the size of the schools will not be significantly affected within the very near future. Thus, no reasonable cost projection would be valid under these circumstances.

### **Trained Teachers**

Nearly every study speaks to the need of trained teachers as well as the retention of teachers. The research literature assumes that better trained teachers and the retention of teachers are positively associated with student learning. While much of this literature is somewhat more of a public policy comment as opposed to scientific controlled research, nonetheless, it is intuitively attractive and a sound public policy to compete for individuals who may otherwise join other professional endeavors in which to make a living. The actual cost of determining a well-trained work force and to retain that work force is addressed in the Young and Stoddard report from Montana State University.

Notwithstanding, these data as presented in the Young and Stoddard report, if the legislature were to attempt to raise teacher salaries to a particular level and to guarantee that teachers in the state would receive a certain amount the two options would essentially be:

Establish a minimum pay schedule that would apply to all districts, or a minimal pay schedule that would apply to a selected group of school districts. The selected school districts could be identified as those below a selected pay scale; those with the lowest per pupil expenditures, those serving the greatest percentage of students who are identified as "at risk." Any amount of appropriation by the legislature would depend entirely upon the Young and Stoddard study.

## **Student Support/Family Outreach Programs**

Presently, the research team is unable to make projections based on generalizable studies that may be applicable to the state of Montana. Thus, any evidence as to the actual costs should be addressed within the expert panels and what they consider to be the need as well as the costs associated with them. Nonetheless, if the state legislature wished to engage in such programs on a pilot basis for those school districts identified as to the greatest need, an amount could be appropriated. e.g., \$ 5 Million in year one in order to solicit, fund, and evaluate proposals and programs.

## **Professional Development**

Professional Development - Based on an extended school year model by increasing the number of days devoted to professional development for classroom teachers and building principals the initial projection is approximately \$ 3.6 Million for the first year.

## **Technology**

The cost of technology under present data availability is unattainable. It is suggested that one of the tasks that the state legislature should undertake is a complete facilities review. The facilities review could be engaged in by modeling after those states that engage in such reviews in order to create a data set for each public school facility within the state. In such a review, and once the standards were developed, the bulk of the assessments could be carried out by local school employees subject to audit. Within the facilities review, an assessment for the needs of meeting technology standards as developed by the state could be determined.

The study should also include the cost of meeting all special needs access codes, safety considerations, and a computation of reasonable maintenance and operation costs and any factors that may economically reduce those costs.

This methodology similar to the advanced statistical model has chosen to rely on the preliminary report provided by analysts from the Governor's office, it is anticipated that the first step of this process will cost approximately \$2,000,000.

Evidenced-Based Firm Projections for the First Year of Implementation are essentially based on a development of a series of pilot proposals. Each concept would be developed via a system of developing requests for proposals, evaluating these proposals, funding the programs for a set period of time, evaluating the programs and building upon these data for programs for the entire state.

<b>Evidenced Based Program</b>	<b>Estimated Pilot Cost</b>
Pre School	\$ 5 Million
School Size	\$5 Million
Class Size	
Principal for Each School	
Student Support/Family Outreach	\$5 Million
Professional Development	\$ 3.6 Million\
Technology	\$ 2 Million
Trained Teachers	Young & Stoddard Report
<b>Total</b>	<b>\$20.6 Million</b>

It is important to note that if concepts and projections were to be adopted by the state legislature that these programs and figures would be in addition to the basic student allocation to school districts. Thus, the cost would be an additional \$ 20.6 Million to the state legislature. It is vital to note that the State Legislature should implement these types of programs on a pilot/limited basis and evaluate each program.

Given the highly unique nature of Montana with its large number of small and isolated school districts the utilization of the evidenced based model does not lend itself to a robust explanation of future costs. That is to say, the major issues of: preschool programs, full day kindergarten, full time building principals, family outreach programs, professional development, and the cost of technology collectively do not present a satisfactory explanation of the additional costs of providing an adequate and quality education for the state of Montana.

That is not to say that these individual programs should not be examined, pilot studied, and implemented, it is to say that in its present state of information the research team cannot offer these individual approaches or this collective approach as the most robust model for implementation. Despite these limitations, the issues of family outreach is highly applicable for such areas as closing the achievement gap that exists within the state of Montana at the present time.

## Needs Assessment and Statistical Analysis

A logical methodology for measurement proceeds from the definition of that which is to be measured. Therefore, the cost of adequately providing a quality education in the state of Montana may be measured directly from the definition of quality education insofar as the definition lends itself to measurement. Defining quality is generally more difficult than defining quantity and further, it should be noted that education itself is a quality, thus creating a compound difficulty in quantification. The definition provided by the Montana Legislature for this study addressed this difficulty in a manner that provided for varying degrees of quantification by examining a combination of perspectives for the educational needs of Montana's youth. To this end, the following eight components serve as the substance of the statutory definition of a quality education under SB152:

- Accreditation standards,
- Special education/special needs.
- Indian Education for all,
- Qualified and effective teachers/administrators,
- Facilities/distance learning,
- Transportation,
- Assessment of student achievement (testing), and
- Preservation of local control<sup>5</sup>

This definition was developed by the 2005 Montana Legislature in response to both a Montana District Court,<sup>6</sup> and a Montana Supreme Court decision,<sup>7</sup>, each of which held the State has an obligation to define and appropriately fund a quality education for all of Montana youth. The definition set forth in SB152 provides the specific requirements necessary to achieve the constitutionally required,<sup>8</sup> level of quality education.

This methodology identified quantifiable portions of the components identified in SB152 and computed additional costs, if any, associated with providing specific factors within those components based upon the 2004 - 2005 school year levels. The needs assessments findings will be correlated to each of these factors and used to reflect upon the reported need as determined from two needs assessments that were administered, i.e., a public and administrative needs assessment.

The costs identified in this research study are applicable and recommended for the funding level necessary for the State to meet its obligation to fund the K-12 public elementary and secondary school system for the 2004-05 school year. Legislation that was not in effect for the 2004-05 budget year, or other factors that may now exist but were not a factor in 2004-05 funding. Consequently, the costs recommended in this study would be expected to be appropriately adjusted to reflect any additional costs between the year of the study and the year of the implementation of a new funding formula as well as

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<sup>5</sup> <http://data.opi.state.mt.us/bills/2005/billhtml/SB0152.htm>

<sup>6</sup> <http://courts.mt.gov/dcourt/>

<sup>7</sup> <http://courts.mt.gov/supreme/>

<sup>8</sup> [http://leg.state.mt.us/css/mtcode\\_const/const.asp](http://leg.state.mt.us/css/mtcode_const/const.asp),

diminished by any legislation that has already addressed any of the factors identified herein as requiring additional funding.

## **Statistical Analysis**

Various statistical procedures were utilized as appropriate. The findings discussed in the main body of this portion of the report provide summary findings in a narrative form with minimal statistical jargon; further statistical results are made available in the Appendix.

## **Definitions**

There are terms commonly used within school funding considerations that require definition for clarification.

**School**...refers to a self-contained facility for education. School (Sc) numbers are used to identify individual schools. There were 6,128 schools in Montana during the 2004-05 school year.

**School District**...refers to one or more schools that are all funded from the same budget unit funded from a single tax base. School districts are denoted by legal entity (Le) numbers. There were 436 school districts in Montana during the 2004-05 school year.

**School System or Administrative Unit**...a school system or administrative unit may include one or more school districts administrated by a common administrator. School system (Ss) numbers are used to identify administrative units. There were 331 operating administrative units subject to this analysis.

An example of how all three of these designations may apply, Broadwater School is school number Sc 655, belongs to school district number Le 487 (Helena Elementary), and is part of school system Ss 611 (Helena Public Schools).

Schools may be configured in one of the following ways:

**Independent Elementary Schools** are schools that comprise grades K-8 (though not necessarily offering all K-8 grades). These schools form school districts without formally sharing administrative oversight with high schools. There were 166 independent elementary school districts during the 2004-05 school year.

**County High Schools** are high schools configured similar to the independent elementary school districts except they do not share administrative oversight with elementary schools. There were five such schools in Montana during the 2004-05 school year.

**Joint or Combined School Districts** are school districts in which a high school district is physically comprised of two or more elementary school districts but combined with one of them. The high school tax base is the sum of those elementary school district's tax bases while each elementary school is a subset of the high school tax base. There were 105 joint school districts in Montana for the 2004-05 school year.

**K-12 School Districts** are those districts having a single elementary district and high school district that share the same property tax base, thereby sharing a unified budget. There were 55 K-12 districts during the 2004-05 school year.

Two final terms require definition:

**Certification**...certification refers to the formal recognition by the State of an educator's academic credentials. The current terminology for certification is licensure; however, the standards are still worded using certification terminology, so certification terminology will be used in this report rather than the newer licensure language.

**Enrollment**...enrollment, for this study, refers to a simple head count taken in the fall of the school year. Enrollment is sometimes reported based upon an adjusted enrollment in which 19 year old students and others students not eligible for present funding mechanisms are eliminated from the count. All students who were present in a classroom are counted in this study regardless of other legal limitations.

### *Additional Classification of Schools*

There are many divisions of schools in Montana, which often causes confusion in identification of schools. Perhaps the most familiar is the class ranking of Class AA, Class A, Class B, and Class C. This classification of schools is used for high school sports purposes based upon size of enrollment in the high school. Another unit of classification used by the teachers' professional organization, MEA/AFT, is Class 1, Class 2, and Class 3. These classifications are based not upon school size as such, but rather upon the size of the community in which the school resides. Schools are also classified into administrative regions, which are based upon geographical location, the state having been divided into nine such regions. These regions include North West, North Central, Hi Line, North East, Western, 4 Rivers, South Central, South East, and Central. The state public K-12 schools are also divided into five regions, denoted I, II, III, IV, and V, by the Comprehensive Systems of Personnel Development (CSPD) system, founded under the requirements of special education law in order to ensure quality educational programs and services are available for all children and youth. The Office of Public Instruction also has a separate set of descriptors whereby schools are coded.

### **Population of Study**

The schools subject to these analyzes are all of the Montana public K-12 schools with the exception of three State funded schools, i.e., the Montana State School for the Deaf and Blind (Great Falls), Department of Corrections – Youth Pine Hills School (Miles City), and Department of Corrections – Riverside Youth Correctional Facility (Boulder). These schools do not fall under the definition of quality education provided by SB152; however, they serve youth in Montana who otherwise would potentially be served by the regular state funded elementary and secondary schools. Consequently, a statement of these three schools' needs have been submitted separately for this report in recognition of their educational contributions to Montana youth. The statements from these three schools may be found in Appendix A.

## **Needs Assessment**

A broad base of input for consideration of the degree to which varying educational factors and services may be perceived to be poor, adequate, or excellent was obtained through an assessment of needs. Rather than sample the state's administrative units, every one of the 331 administrative units were invited to participate in this study so that the needs of each school district would be included in the study rather than generalized from a sample of schools. In addition, the public was provided a means to participate so that their perceptions would also be included in this report.

## **Administrative Version-Instrument Development**

The first step in the definition of an adequate (quality) education was identified by the Quality Schools Committee as the current State Accreditation standards. A needs assessment instrument was structured around these standards and included items addressing the other factors in the quality definition as well. Overall, the major aspects were addressed in the construction of the forced choice instrument. These included: Curriculum and co/extra-curriculum Areas

- Leadership, Instructional Monitoring and Support,
- Curriculum Review and Assessment,
- Instructional Support Services and Arrangements, including:
  - Special Education
  - At-Risk and Minority Achievement Gap.
- Professional Development
- School Climate and Organizational Improvement, including
  - Indian Education for All
- Open-ended questions

A copy of the District Needs Assessment Instrument may be found at Appendix B

Although the Needs Assessment Instrument was not field tested, it was subjected to the scrutiny of the working group and the Legislative Interim Committee prior to its administration. The instrument was then put into a “web” format for administration via the internet. It was presumed that, with the cooperation and support of constituent groups, a minimum of 70 percent return rate would be achieved.

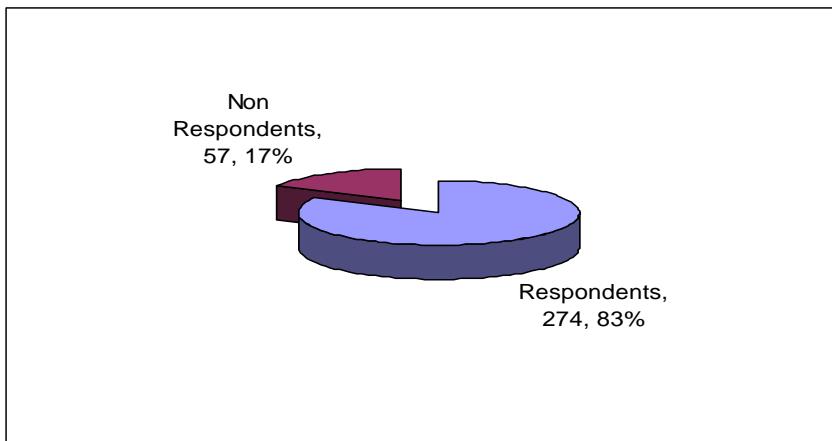
## ***Return Rate***

The needs assessment was provided online<sup>9</sup> with password access for all 331 administrative units in the state of Montana. In addition, administrators requiring a hardcopy of the survey and/or assistance in logging on or completing the survey were provided with help from Jilyn Oliveira, a research assistant with R.C. Wood & Associates. An overall return rate of 83 percent (274 returned out of a possible 331) of the administrative units was achieved on the Needs Assessment. Craig McNinch developed the website and also assisted respondents with technological difficulties with the Needs Assessment. See the Appendix for the logs.

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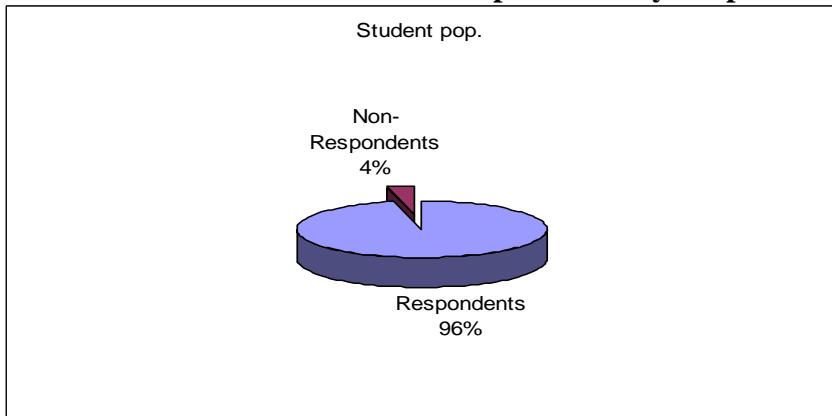
<sup>9</sup> <http://www.mtk12funding.org>

### Overall Response Rate - Districts



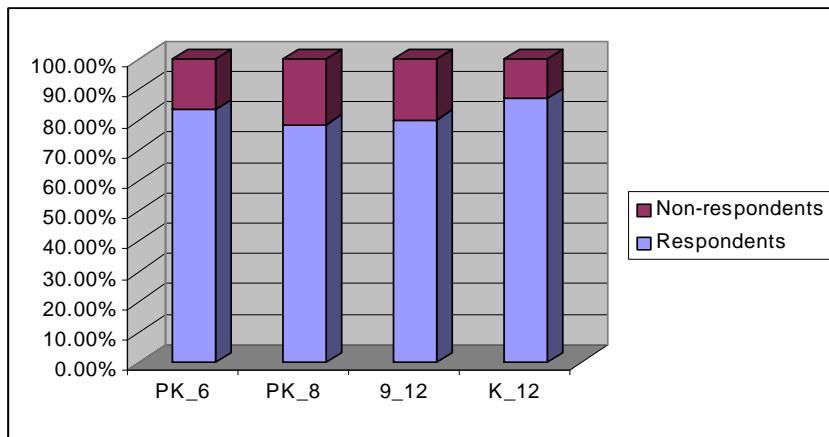
The 331 administrative units represent a 2004-05 student population of 146,552 students. Of this population, the needs of 96 percent of the Montana K-12 public school students (140,743 students represented in the survey out of a possible 146,552 students) were represented by their school administrators. The largest non-responding administrative unit had an enrollment of 559 while the smallest non-responding administrative unit had an enrollment of 1.

### Percent of Students Represented by Respondents



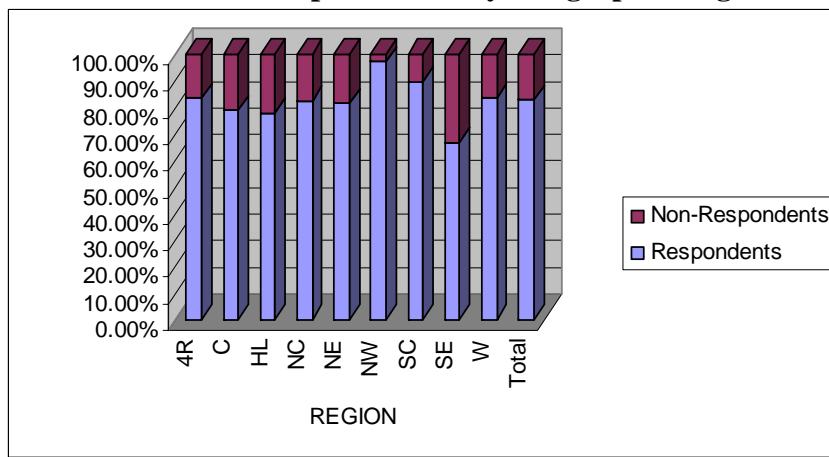
Of the total 275 districts reporting, 20 of the 23 PK-6, 112 of 143 PK-8, 4 of 5 (9-12) districts, and 139 of 169 K-12 districts responded. Thus, the response rate of the various organizational levels shows a low of 78 percent (PK-8) to a high of 87 percent K-12 districts.

### Response Rates by Organizational Level

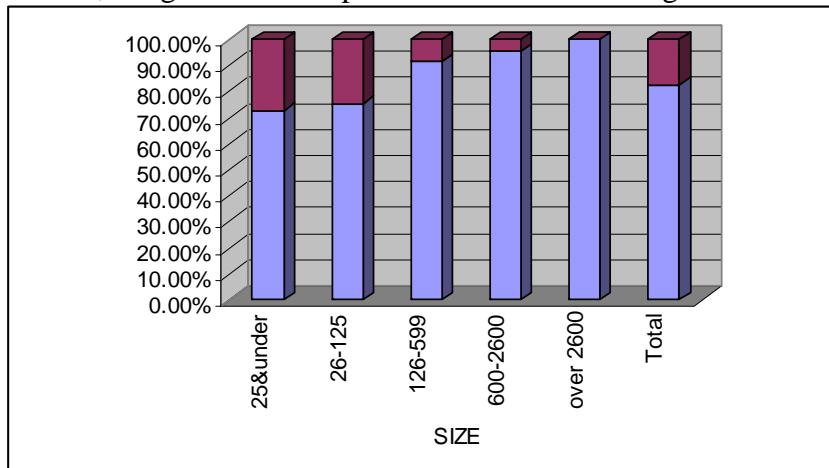


Similarly, responses were received from all nine administrative regions of the state. Response rates were equally high across the regions (from 78 percent of the “High Line” school districts to 97 percent of the North West Region school districts). The lone exception was a 67 percent response rate from the school districts in the South East Region.

### Response Rate by Geographic Region



School size appears to be the only demographic factor related to response rate. That is, the larger the school, the greater the response rate. The following table indicates the relationship of size to response rate.



**Response Rate by School Size**

**Table 1. Responses by “district size.”**  
 (note: size designations were arbitrarily determined).

District Size	25 &under	26-125	126-599	600-2600	Over 2600	Total
Yes	66	65	96	41	7	275
No	25	21	10	0	0	56
Total	91	86	106	41	7	331

## Generalizability

The administrative units returning the needs assessment were represented by enrollment in the nearly the same proportion as in the overall state population. The largest discrepancy was found in the administrative units having enrollments from 1 to 100 students. Administrative units having enrollments of 1 to 100 students comprise 42 percent of the returned needs assessments while these same size of schools makeup 48 percent of the administrative units statewide. However, the 6 percent discrepancy in the smaller administrative units represents a small discrepancy based upon statewide student enrollment, potentially as small as one-tenth of a percent. The next largest discrepancy was found in schools having enrollments from 301 to 400, where these schools makeup 7 percent of the statewide administrative units while comprising 8 percent of the returned needs assessments. Therefore, based upon a high return rate and proportionate stratification by school size, it is concluded that the sample of administrative units returning the needs assessment provides an excellent statistical representation of all Montana administrative units.

## Public Version

A shorter version of the Needs Assessment was provided online for the public<sup>10</sup> The Public Needs Assessment was provided primarily for gathering data regarding the public perception of K-12 public school funding. In addition to providing non-administrative educators and the general public with an opportunity to participate, it was hoped that the website would allow for additional statewide communication regarding the new funding process and result in having available as many perspectives as possible.

As of August 15, 2005, there were 861 *usable* responses. These responses were examined for duplications and there were no problems found that would suggest duplication in responses beyond that which would be expected by chance.

The Public Needs Assessment instrument consisted of twenty-three forced choice items and one open-ended question. Response rubrics to the twenty-three items asked for public perceptions in the following areas.

- Opinions concerning *Local Conditions* (strongly agree to strongly disagree, 0=don’t know)

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<sup>10</sup> <http://www.mtk12funding.org>.

- Opinion concerning *Local Importance* (very important to unimportant-should not do, 0=don't know).

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Items were generally built around State Accreditation Standards, the first step in defining a Quality Education for Montana schools. Similarly, respondents identified the school type (organizational level) to which they were referring:

- K-Elementary: 191 (22 percent)
- Jr/Middle: 50 (6 percent)
- 9-12: 87 (10 percent)
- K-12 – 530 (62 percent)

#### **Ranked responses: Public Needs Assessment -**

					Condition	Importance
1	Basic Education results in high achievement test scores				80	89
2	School success measured by success beyond graduation				70	76
3	School success measured by graduation rate				76	82
4	Children get a good quality education in our district				81	91
5	District provides appropriate mix of enrichment for students				71	84
6	District provides appropriate extra help for students who need it				64	81
7	District is able to attract well qualified teachers				58	86
8	District is able to afford modern school facilities				48	79
9	District is able to afford well equipped school facilities				50	82
10	District provides adequate supplies and materials for programs				53	83
11	Curriculum includes knowledge about contribution of American Indians				47	56
12	Children with disabilities are provided adequate educational services				72	80
13	Gifted and Talented students provided appropriate services				38	75
14	Students have adequate choice of co-curricular/extracurricular activ.				70	78
15	Schools are open and accessible to views and concerns of community				66	84
16	District is able to attract well qualified administrators				58	81
17	District provides well planned prof development for teachers/admin				55	71
18	Federal mandates are adequately funded.				21	67
19	State mandates (i.e., Accred. standards) have been adequately funded				28	72
20	State mandates (i.e., Indian Ed. For All) have been adequately funded				23	52
21	Every MT student deserves the same quality education no matter where				81	84
22	Local control of schools is critical to support of public education				78	81

The top ten items (ranked) by the public as being least adequately accomplished with current funding in their districts were:

- Federal mandates are adequately funded.
- State mandates (i.e., Indian Ed. For All) have been adequately funded
- State mandates (i.e., Accreditation standards) have been adequately funded
- Gifted and Talented students provided appropriate services
- Curriculum includes knowledge about contribution of American Indians
- District is able to afford modern school facilities
- District is able to afford well equipped school facilities
- District provides adequate supplies and materials for programs
- District provides well planned professional development for teachers/admin
- District is able to attract well qualified teachers

Items rated as most important to the public for their districts were:

- Children obtain a good quality education in our district.
- Basic Education results in high achievement test scores
- District is able to attract well-qualified teachers.
- Schools are open and accessible to views and concerns of community.
- District provides appropriate mix of enrichment for students
- Every Montana student deserves the same quality education no matter where
- District provides adequate supplies and materials for programs.
- District is able to afford well-equipped school facilities.
- School success measured by graduation rate
- District is able to attract well-qualified administrators.

## **Reporting of Results**

The collective results from each of the Administrative and Public Needs Assessments will be reported,<sup>11</sup> All statistical comparisons and open-ended comments from the assessments will be included in an accompanying notebook.

While the findings in the administrative returns have valid statistical generalizability with respect to school size and other variables, there is no attempt to generalize the findings of the public survey to the population of Montana as a whole. The findings of those 861 usable public needs assessments represents the perceptions and opinions of the people who were able to participate, reflect, and provide input regarding the educational needs of Montana youth. Their input is valuable to the process but it is not possible to generalize or imply a generalization of a trend found in those responses to the state population as a whole.

## **Component One**

### **Montana Accreditation Standards**

#### **Introduction**

This component of the cost analysis was developed based upon the 2005 wording of the Montana Accreditation Standards. These standards are required of all public schools in Montana with the exception of the three state funded schools mentioned above. The factors of this component presented here were determined to require a direct cost to school districts. Several of the factors for funding in the Accreditation Standards are included as separate components in the definition contained in SB152. When factors in the Accreditation Standards are delineated more specifically in one of the other seven components, that factor will be so noted and presented in more detail within that component.

### **Needs Assessment**

The District Needs Assessment provided information concerning approximately fifteen areas of the curriculum, co-curriculum, and extra-curriculum. These included:

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<sup>11</sup> <http://www.soe.umt.edu/edldc/>

- English/Reading/Language Arts
- Mathematics/Advanced Mathematics
- Science Curriculum
- Social Studies Curriculum
- Art Curriculum
- Music Curriculum
- Health & Physical Education
- Middle Grades Basic Curriculum
- High School Basic Curriculum
- Special Education Services
- Library/Media Services
- Guidance Services
- Intramural athletics and activities
- Clubs and student activity organizations
- Boys and Girls Interscholastic Athletics

Each curriculum element asked respondents four general questions concerning the adequacy of their programs. These included questions about the extent to which the district was able to:

- Provide adequate materials and operating resources?
- Provide modern facilities?
- Recruit qualified staff (teachers/administrators)?
- Retain qualified staff (teachers/administrators)?

### **Certified/Licensed Personnel**

Salaries make up the largest portion of the money spent on education, therefore, the required number of personnel, as per a reasonable interpretation of the accreditation standards, is the first consideration in determining the cost of providing an adequate funding of quality education in Montana. The purpose of this part of the analysis is not to determine if the employed educators were highly qualified or properly licensed, but rather to determine if schools employ sufficient full time equivalent personnel to meet the minimal level as required by the Montana Accreditation Standards.

Special education personnel, as such, are not addressed in the accreditation standards specifically in the same way that regular education personnel are; however, they are discussed in Component 2.

### **District Administrators – Superintendents**

Accreditation standard 10.55.704 is the primary standard referencing the assignment of superintendents, which is based upon the number of certified FTE in a school district. The standard states:

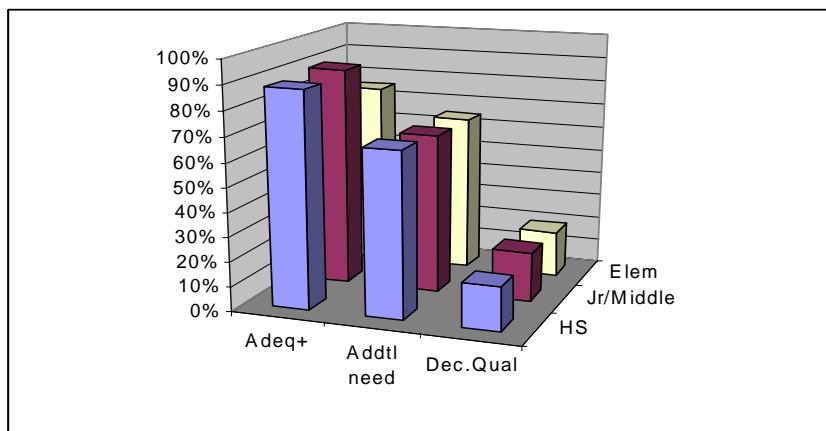
**SUPERINTENDENTS** (1) A district superintendent for a combined elementary-high school district or a county high school district or an independent elementary school district shall be assigned as follows:

(a) A full or part-time district superintendent and a full or half-time school administrator as defined in ARM 10.55.705(1)(a) or (b) shall be employed for an independent elementary district with fewer than 18 full-time equivalent (FTE) certified staff or the district shall utilize the services of the county superintendent to fulfill the duties of the district superintendent. One administrator may serve as both superintendent and part-time school administrator as defined in ARM 10.55.705(1)(a) or (b). A superintendent serving under this subsection shall devote full time to administration and supervision not to exceed a total assignment of 100 percent FTE; (b) A full or part-time district superintendent and a full or half-time school administrator shall be employed for a combined elementary-high school district or a county high school district with fewer than 30 FTE certified staff. A full or part-time district superintendent and a full or half-time school administrator shall be employed for an independent elementary district with more than 18 but fewer than 30 FTE certified staff. One administrator may serve as both superintendent and part-time school administrator as defined in ARM 10.55.705(1)(a) or (b). A superintendent serving under this subsection shall devote full time to administration and supervision not to exceed a total assignment of 100 percent FTE;

(c) A full-time (1 FTE) district superintendent shall be employed for any district with 30 or more FTE certified staff, or 551 or more students.

Districts were queried as to the ability to employ qualified school leaders to meet accreditation standards based on number of staff and number of students.

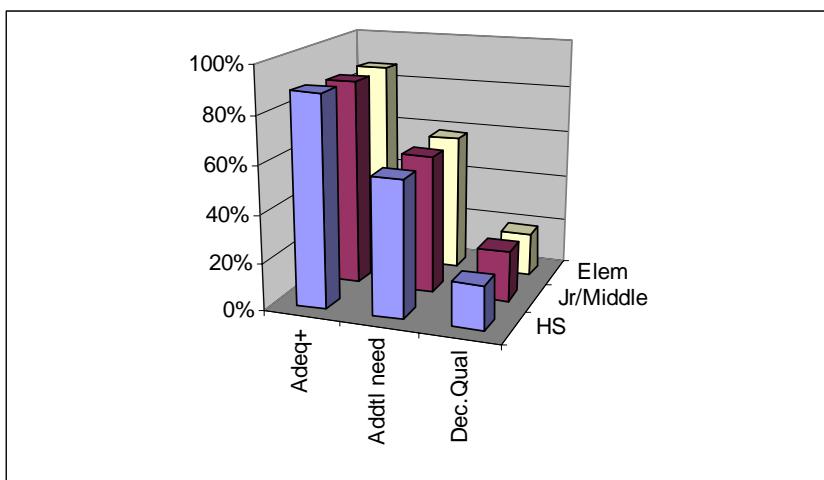
#### Able to Hire Qualified & Licensed School Leaders to Meet Accreditation Standards



	Adeq+	Addtl need	Dec.Qual
HS	88%	67%	18%
Jr/Middle	90%	65%	20%
Elem	76%	65%	19%

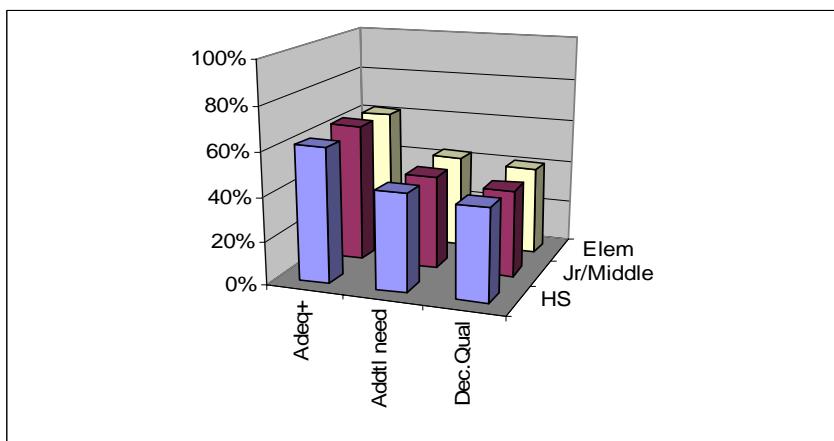
According to the needs assessment, a high percentage of districts respondents feel that they are able to employ adequately licensed and qualified school leaders. Similarly, most districts reported an ability to employ part-time superintendents, or supervising teachers as required by accreditation standards.

### Full or Part-Time Superintendent (or Supervising Teacher) as Required



	Adeq+	Addtl need	Dec.Qual
HS	89%	58%	18%
Jr/Middle	87%	58%	22%
Elem	87%	58%	19%

### Regional or Full-Time Curriculum Director as Needed and Required



	A d e q +	A d d t l n e e d	D e c . Q u a l
H S	6 2 %	4 5 %	4 2 %
J r / M i d d l e	6 4 %	4 3 %	4 0 %
E l e m	6 2 %	4 3 %	4 1 %

## **Assumptions**

Data for the calculations of district and school administrators were taken from an OPI database.<sup>12</sup> The most recent data available was for the 2003-04 school year.

## **Procedure**

To determine the State's minimum obligation to meet accreditation standards as per the number of superintendents required under 10.55.704, this standard was applied in a way that computed the fewest number of superintendents required. The numerical provisions of the standard were applied to each school district, i.e., number and the appropriate assignments made.

At the draft presentation of this report before the Quality Schools' Legislative Interim Committee on August 30<sup>th</sup> through September 1, 2005, the Office of Public Instruction personnel explained that it was OPIs practice to treat joint school districts, that is, administrative units, as applicable to these calculations in total. That is, the certified personnel in both the elementary district and the high school district in joint school districts are combined and the sum is treated as a K-12 district for the purpose of determining assignment of superintendents.

This is a reasonable interpretation given the standard makes no mention of K-12 school districts; therefore, presumably, K-12 school districts are included in the combined elementary and high school district terminology found in the standard and treated equally. However, this standard, in total, is not easily interpreted. Section 1 clearly states that all combined, independent elementary, and county high school districts have the option of substituting the county superintendent for a certified superintendent for a district having fewer than 18 FTE certified employees. However, subsection 1(b) states that joint districts and county high schools having fewer than 30 FTE shall employ a minimum of a part-time superintendent. This requirement seems to contradict 1(a) providing for the substitution of the county superintendent for less than 18 FTE. To further complicate interpretation, the standard continues requiring elementary school districts greater than 18 but fewer than 30 to employ a part-time superintendent, thereby acknowledging a minimum FTE between allowance for a county superintendent and a required part-time certified superintendent. The standard does not say what should be the superintendent assignment for an independent elementary district having 18 FTE certified personnel, only less than and greater than 18. The only unambiguous section of the standard is 1(c) requiring a FTE superintendent for all districts having 30 or more FTE or more than 550 students.

To add to the complexity, Billings superintendent, Rod Svee, pointed out the calculations for superintendent assignment was also in state law 20-4-401. This law, in part, is as follows:

**20-4-401. Appointment and dismissal of district superintendent or county high school principal.** (1) The trustees of any high school district, except a county high school, and the trustees of the elementary district where its high school building is located shall jointly employ and appoint a district superintendent. The trustees of a county high school shall employ and appoint a district superintendent, except that they may employ and appoint a holder of a class 3-teacher certificate with a district superintendent endorsement as the county high school principal in lieu of a district

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<sup>12</sup> [www.opi.state.mt.us](http://www.opi.state.mt.us)

superintendent. The trustees of any other district may employ and appoint a district superintendent.

This law requires the employment of “a superintendent” for all high school districts, with the exception of those districts in which the elementary and high school buildings are in a separate location. The phrase “a superintendent” is not modified to indicate whether a superintendent refers to one FTE or a part-time superintendent. Given the MCA makes frequent use of the modifier “part-time” in other statutes, it is not easily concluded whether the intent of “a superintendent” in 20-4-401 is a part-time or full-time superintendent. Finally, legal staff for the State provided a review of four statutes in the MCA regarding superintendents and concluded they were contradictory.

### ***Findings***

Both the State legal code and the Accreditation Standards are ambiguous with respect to the minimum number of superintendents required to meet present accreditation standards. The maximum number of superintendents that could be interpreted as necessary under the State Accreditation Standards would be to interpret 20-4-104 as requiring a FTE superintendent in all high schools. Under that interpretation, the minimum FTE for superintendents would be 177 while the actual FTE is 142, indicating an under employment of superintendents. On the other hand, there is an equally good argument that other interpretations are possible providing a lower minimum FTE, but that number is indeterminate given the absence of a minimum FTE per high school district should “a superintendent” be interpreted to mean less than FTE.

### **Conclusion**

It is not possible to determine with certainty what minimum FTE would be required to meet accreditation standards for the assignment of superintendents because of the inconsistencies in the state standards as well as the interplay of state law, nor does the high end of the range, i.e., 177, seem reasonable as the only possible interpretation. Therefore, in the absence of clear direction in the standards or state law, the present superintendent FTE of 142 should be considered to be the minimum FTE necessary for the state to fund in order to provide district level administration as per Montana accreditation standards. The number of 142 FTE is based upon 331 operating administrative units as defined earlier.

### **Recommendation**

Proportionally based upon at least the number of district certified FTE necessary to meet accreditation standards, the new funding formula should provide specific funding for educational leadership in all school districts. Smaller school districts may choose to combine funding to employ a certified district administrator. The present accreditation standards have the potential of utilizing County Superintendents for district level administration well beyond the time than would be expected to be available to them given their countywide responsibilities.

Finally, 10.55.704, 10.55.705, and 20-4-401 should be rewritten so that they are consistent, internal inconsistencies are eliminated, and reflect minimum provisions for an expectation of at least the present FTE of 142.

## **School Administrators – Principals**

School principals are covered under accreditation standard 10.55.705 as follows:

### **10.55.705 ADMINISTRATIVE PERSONNEL: ASSIGNMENT OF SCHOOL**

**ADMINISTRATORS** (1) School districts shall employ appropriately endorsed school administrators as follows:

- (a) A district superintendent or supervising teacher and county superintendent for schools with fewer than 9 full-time equivalent (FTE) certified staff;
- (b) .5 FTE for schools with 9-17 FTE certified staff;
- (c) 1 FTE for schools with 18-29 FTE certified staff or 250-550 students;
- (d) 2 FTE for schools with 551-1050 students;
- (e) 3 FTE for schools with 1051-1550 students;
- (f) 4 FTE for schools with 1551-2050 students; and
- (g) 5 FTE for schools with 2051 or more students.

This standard introduces a new FTE level at a new level, i.e., a school district shall employ at the school level, with fewer than 9 FTE certified staff, either a superintendent or a county superintendent with a supervising teacher. At the point a district has 9 to 17 FTE, a half-time principal is required in addition to the district level administration (county superintendent minimum) and between 18 and 29 FTE or up to 550 students, a full-time principal is required and so forth throughout the standard.

Standard 10.55.704 assigns school administrators by school district. That is, in this standard, a school administrator (a principal) is assigned at the district level without regard to the number of schools in the district. In 10.55.704, FTE is computed based upon school district employment whereas in § 10.55.705, principals appear to be assigned by schools and determining FTE calculations are at the school level.

### **Procedure**

Accreditation standard 10.55.705, particularly when read with 10.55.704, is also ambiguous and does not allow for a clear determination of a definitive number of principals that would be required under the accreditation standards.

### **Findings**

The appropriate database obtained from the Office of Public Instruction indicates the 2003-04 FTE of school level administrators to be 487.

### **Conclusion**

The between and within difficulty in interpreting the accreditation standards for school administrators prevents a single interpretation in order to calculate the minimum level of school administrators necessary to stipulate the corresponding FTE. Consequently, it is concluded that 2003=04 level of 487 FTE would represent the minimum level necessary to provide school level administration as per the accreditation standards.

## **Recommendations**

See recommendations for school district level administrators as per revision of appropriate accreditation standards. Educational leadership is essential to moving school districts to the excellence that is expected of each school district. Each school district should have funding provided for school level leadership proportional to the school level FTE.

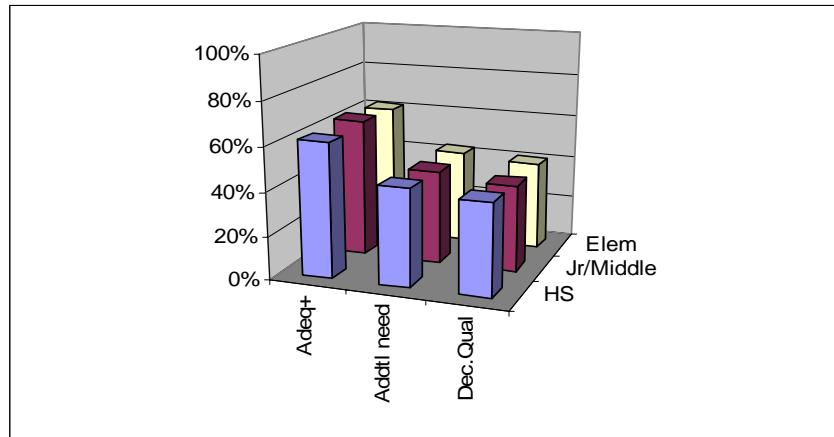
## **Curriculum Coordinators**

The FTE level of curriculum coordinator is guided by 10.55.704 as follows:

- (2) A combined elementary-high school district, or a county high school district, or an independent elementary school district with 100 or more FTE certified staff shall employ a full-time curriculum coordinator to supervise the educational program and alignment of standards, assessment, curriculum, instruction, and instructional materials.

The curriculum coordinator shall hold a Class 3 administrative certificate. Those districts with less than 100 FTE certified staff and no full-time curriculum coordinator shall employ the services of a regional curriculum consortium or a part-time, designated curriculum coordinator.

## **Regional or Full-Time Curriculum Director as Needed and Required**



	Adeq+	Addtl need	Dec. Qual
HS	62%	45%	42%
Jr/Middle	64%	43%	40%
Elem	62%	43%	41%

Respondents to the District Needs Assessment indicated that these positions are more difficult to fill. Only 60 percent report that they can adequately staff these positions and more than 40 percent report that it is getting more difficult to do so.

## **Procedure**

This standard is more clearly written and provides for a direct calculation of the minimum curriculum coordinator FTE necessary to meet accreditation standards, assuming that combined elementary-high school districts are treated as K-12 districts and not as separate school districts.

## **Findings**

A total of twenty-one FTE curriculum coordinators are necessary for Montana schools to meet the minimum level of onsite district coordinators. The remaining 415 school districts may be served through a regional coordinator.

## ***Conclusion***

The state of Montana meets its statutory obligation to provide curriculum coordinators when funding exists such that twenty-one appropriate school districts each have one FTE while the remaining 415 school districts have sufficient utilization of a regional curriculum coordinator.

## **Recommendation**

The present level of curriculum coordinator FTE is thirty-one, a 48 percent increase over the required minimum. Curriculum coordination has an increased demand and importance as curriculum continues to be developed based upon state and national standards, which is presently assessed for higher stakes than previously experienced in Montana education. In addition, sufficient curriculum coordinator FTE helps to address many of the other demands on school districts dealing with at risk populations, Indian Education for All, and other needs that have been introduced into Montana public schools in order to better provide for all of Montana's youth.

Consequently, the new funding formula should provide funding to all school districts, a portion of which is identifiable as money provided for curriculum development, to include the cost of curriculum coordinators at the present level of thirty-one FTE as well as the cost of regional coordinators. The present standards base the curriculum coordinator FTE on the number of certified FTE in the district. If the new funding formula bases certified FTE on enrollment, it would be logical to proportionally fund curriculum development, including both onsite and regional coordinators, on certified FTE.

## **Media/Librarians**

The FTE level of media personnel is guided by 10.55.709 as follows:

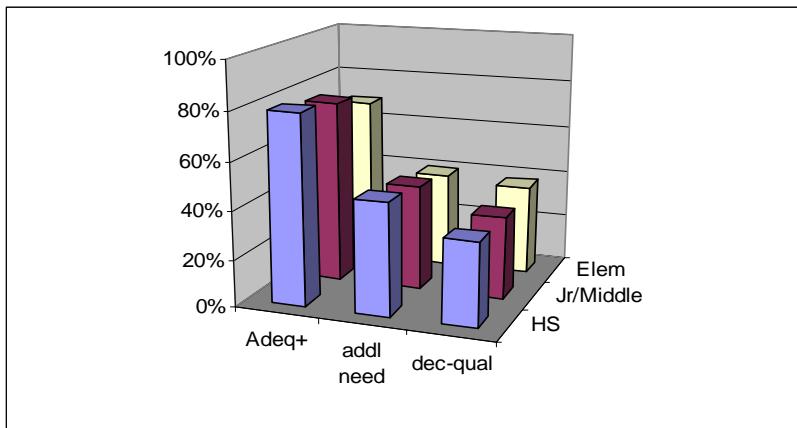
**LIBRARY MEDIA SERVICES, K-12** (1) The library shall be housed in a central location, and each school shall have a full-time or part-time certified school library media specialist with a K-12 library media endorsement at the following ratio:

- (a) .5 FTE for schools with 126-250 students;
- (b) 1 FTE for schools with 251-500 students;
- (c) 1.5 FTE for schools with 501-1000 students;
- (d) 2 FTE for schools with 1001-1500 students;
- (e) 2.5 FTE for schools with 1501-2000 students;
- (f) 3 FTE for schools with 2001 or more students.

(2) Schools or districts of fewer than 125 students shall employ or contract with a certified, endorsed school library media specialist, or seek alternative ways to provide library media services, using certified personnel.

The District Needs Assessment indicated that more than one-third of all school districts perceive an increasing difficulty in finding and funding these positions, given current support. Nearly half of all school districts report that more support is needed in this area.

### Recruit Qualified Lib/Media Staff



	Adeq+	addl need	dec-qual
HS	79%	47%	35%
Jr/Middle	76%	44%	35%
Elem	70%	40%	38%

### Procedure

This standard is more clearly written and provides for a direct calculation of the minimum media/librarian FTE necessary to meet accreditation standards. Each school district was analyzed as per the stated criteria and appropriate FTE computed. Joint districts were treated as separate districts for the purpose of assigning medial personnel.

### Findings

A total of 166 FTE were computed to meet minimum level of onsite media personnel. A total of 238 school districts qualified under the alternative media services option. The actual level of media FTE personnel was calculated to be 356 FTE.

### Conclusion

The state of Montana meets its statutory obligation to provide the minimum level of media/librarian personnel.

## **Recommendation**

Perhaps no supporting service for public school youth has been more impacted by the technological advancements of the past twenty-five than the library. The library is the core, the central point upon which all curricular and academic goals meet. The quality of the library is reflected throughout all of the educational pursuits of a school district.

The incredible increase in the access to information has also increased the obligation a school district has to provide the faculty and technology necessary to support these benefits. The findings in this section clearly indicate that the State standards are far below what is necessary today to staff school libraries. Presently, school district officials find it necessary to exceed the minimum levels set in the accreditation standards by 114 percent. Given the present level of funding been found to be inadequate, the State should consider accreditation standards that factor in the present practices of media FTE staffing levels as well as the importance of the media services to the district curricula and the ongoing increase in media services necessary to meet future demands of K-12 education.

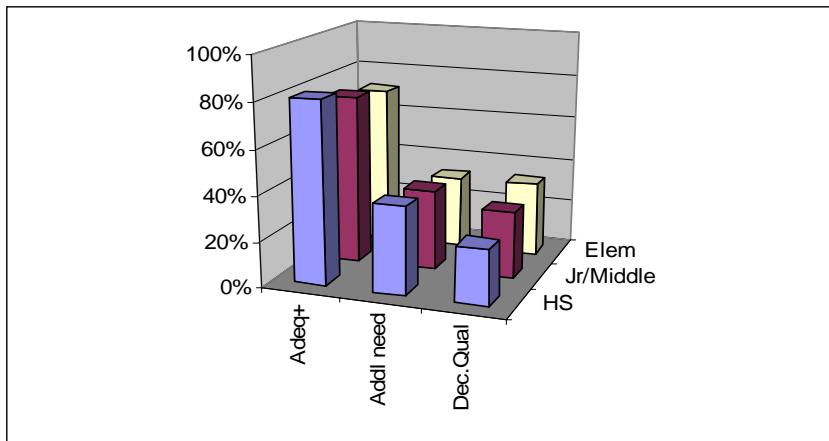
## **Guidance**

The FTE level of guidance personnel is guided by 10.55.710 as follows:

- ASSIGNMENT OF GUIDANCE STAFF (1) A minimum equivalent of one full-time counselor for each 400 elementary (K-8) students shall be provided. The counselor/student ratio shall be prorated.  
(2) A minimum equivalent of one full-time counselor for each 400 high school students (including grades 7 and 8 if high school funding is received) shall be provided. The counselor/student ratio shall be prorated.  
(3) Schools and/or districts with fewer than 125 students shall employ or contract with a certified, endorsed school guidance specialist, or they shall seek alternative ways to provide guidance services and meet the required guidance program goals, using certified personnel.

In addition to asking about personnel, the District Needs Assessment also queried administrators about operating costs for programs. One-fourth to one-third of all school districts reported that this is a budget category relative to counselors at all levels that is in decline.

## **Adequate Guidance Materials and Operating Resources**



	Adeq+	Addl need	Dec.Qual
HS	81%	39%	25%
Jr/Middle	75%	36%	30%
Elem	72%	33%	33%

## **Procedure**

This provides for a direct calculation of the minimum guidance personnel FTE necessary to meet accreditation standards. Each school district was analyzed as per the above criteria and appropriate FTE computed. Joint districts were treated as separate districts for the purpose of assigning guidance personnel.

## **Findings**

A total of 336 FTE were computed to meet minimum level of onsite guidance personnel. A total of 238 school districts qualified under the alternative guidance services option. The actual level of media FTE personnel was calculated to be 414 FTE.

## **Conclusion**

The State meets its statutory obligation to provide the minimum level of media/librarian personnel.

## **Recommendation**

Guidance services are a benefit to all students. Guidance personnel help those who struggle the most with both academic and personal problems, while at the same time, assist the most gifted students with placement and funding for higher educational opportunities. Clearly, school districts find it necessary to provide 23 percentage more guidance than required for funding purposes. State officials should consider the present level of FTE to represent the minimum required as per 2004-05 demands.

## **Teachers**

The accreditation standards regarding the number of teachers necessary are based upon maximum classroom enrollment. Standard 10.55.712 sets forth the maximum class size thereby establishing a means to determine the minimum number of classroom teachers necessary to deliver an adequate, quality education in Montana. There is no required minimum class size.

Several assumptions were made to determine the number of teachers necessary to meet the requirements of the state accreditation standards.

## **Assumptions**

Numerous assumptions were necessary in order to determine if school districts were generally able to employ sufficient numbers of educators in order to meet accreditation standards.

## **Enrollment Buffer**

The assumptions made for determining the number of classroom teachers required for each elementary school included deducting four students from each of the specific classroom maximum enrollment allowed under the state standards. By providing a buffer of four students for each elementary classroom, the state has provided for funding teachers at a level that provides a number of benefits that are consistent with State standards.

The first benefit of providing the concept of a buffer to Montana education would be the certainty that funding would be provided for teachers at a level that ensures each elementary grade would be divided into an additional grade at a point in which the enrollment of that grade reaches within four students of the accreditation maximum. This would ensure that Montana elementary grades, insofar as other logistical factors such as facilities permit, have a class size that is conducive to a quality education.

Funding schools based upon the number of teachers needed, determined by enrollment, provides a possible way to relieve the problem inherent in the present per Average Number Belonging (ANB) method of funding in which a school district loses funding for each student decline in enrollment. Presently using the ANB funding mechanism, a school district could lose one student from each of the grades first through sixth without reducing accreditation standards' required number of classroom teachers for those grades and yet the school district has lost funding for one of the teachers.

Administrators are then required to eliminate a teacher from classroom that may already be at maximum class size. However, if schools were funded based upon the number of teachers needed based upon enrollment, a school could lose several students without losing any funding, just so the enrollment in a given grade does not allow for the reduction of a teacher. The presence of a four-student buffer would provide a much needed cushion to the enrollment caps so that administrators could provide additional teachers before having to crowd the classroom to the maximum number of students. This would also provide administrators with additional time to find qualified teachers without having to wait until the classroom has reached maximum enrollment in the event a suitable teacher could not be found in the first year in which the district is eligible for funding an additional teacher.

A third benefit to funding teachers according to enrollment levels using a buffer of four students would provide school district administrators with greater flexibility in retaining teaching staff. For example, if a school were to decline from thirty to the present maximum classroom size of say twenty-eight fourth graders, the district would lose funding for one of the 4<sup>th</sup> grade teachers even though present enrollments suggest that in the following school year, there will be thirty-four fourth graders and a second teacher required. The school district would then have to eliminate a teacher, possibly one that is very difficult to replace, and in the succeeding year, try to find a new teacher because of increased enrollments. With a buffer of four, the school district would be able to retain a desired teacher when enrollment declines slightly below the maximum classroom size when it is logical to do so based upon anticipated enrollment.

A fourth and very important benefit of a buffer of four students is that a lower class size is a highly desirable condition necessary to work with at-risk populations. Teachers are now required to work with challenges in the classroom that did not exist at the time the standards set maximum classroom enrollments. Teachers are now expected to be an important component of implementing Individual Education Programs (IEP), 504 plans, gifted and talented, and a large number of other situations that do not fit under a defined plan or program. Even new teachers with the latest university preparation struggle to keep up with technology, changing software, new curricula such as Indian Education for All,

No Child Left Behind (NCLB) and many other requirements. By providing a buffer of four students so that a class is divided before reaching the maximum level, teachers are provided with a more favorable class size thus recognizing the importance of truly addressing the needs of all students so that a teacher's frustration with not enough time to give proper attention to so many important and necessary classroom considerations may be replaced with the satisfaction of seeing all children progress. As suggested in the evidenced based methodology the reduction of classroom size benefits all students.

A fifth benefit to a four-student buffer is the impact moderate class size has upon teachers. A school system that provides all teachers in all schools with favorable class size will quickly become a recognized and sought after feature of Montana education. Those teachers who are concerned about helping all students, i.e., the quality of teachers that Montana seeks, will find a classroom structure in which they may truly educate the youth under their supervision to be conducive to their professional goals and aspiration. Nothing more motivates retention that success in the classroom and a modest class size in a necessary component of that success.

Finally, consistent with the evidenced-based discussion, a four-student buffer would contribute to an improved and positive school climate for all of the aforementioned reasons. In addition, behavior problems decrease with smaller class sizes, teachers have more time to be involved with the non-academic, but important functions of other school activities, and the general welfare of the school is increased by the resulting positive climate.

## **Kindergarten**

Kindergarten children were counted the same as any other child in any other grade, regardless of whether the school had a full time or half time kindergarten.

## **Elementary Grades**

Accreditation standard 10.55.712 sets forth the maximum classroom size for the different elementary structures. These requirements are as follows:

### **One Teacher Schools**

<b>Grade Level</b>	<b>K - 8</b>
<b>Maximum Enrollment</b>	<b>18</b>

### **Multigrade Schools**

<b>Grade Level</b>	<b>K - 3</b>	<b>4 - 6</b>	<b>7 - 8</b>
<b>Maximum Enrollment</b>	<b>20</b>	<b>24</b>	<b>25</b>

### **Single Grade**

<b>Grade Level</b>	<b>K - 2</b>	<b>3 - 4</b>	<b>5 - 8</b>	<b>9 - 12</b>
<b>Maximum Enrollment</b>	<b>20</b>	<b>28</b>	<b>30</b>	<b>30</b>

## **High School and 7<sup>th</sup> and 8<sup>th</sup> Grades Funded at the High School Level**

Per class enrollments for high school grades and junior high grades were not available for this study; therefore, classroom teachers in these grades could not be computed directly. Where present practices were found to be consistently applied throughout the state, present levels of teacher FTE were factored into the calculations.

The assumptions used to determine the number of teachers necessary to meet accreditation standards include in addition to the accreditation standard for elementary teachers, the requirements delineated in 10.55.713, 10.55.904, and 10.55.905. These requirements set maximum high school class sizes, a minimum number of specific courses that must be taught, and minimum graduation requirements. The maximum class size for most high school classes, as well as 7<sup>th</sup> and 8<sup>th</sup> grade classes taught in a high school format, is thirty, the required courses are minimal, i.e., four years of English; three years of math, science, and social studies; two of vocational education, arts, world languages, electives; and one year of health enhancement. While these courses in themselves would be relatively easy to determine the necessary number of teachers to teach, the standards also address that schools have the obligation to provide unspecified curricula that “enable students to meet the content and performance standards” of both the state and the local school districts.

In addition, a difficulty arises when other standards are incorporated such as the maximum number of students that may be assigned to a teacher per day is 150, which limits a teacher to five classes per day if all five are filled to the thirty limit maximum. Further, unlike elementary classes in which the number of 5<sup>th</sup> graders is the number to be served at that level, in high school, many courses are open to more than one grade level and so it becomes difficult to determine actual teacher load.

## **Regular Education**

These analyzes are for regular education only. The accreditation standards do not have quantitative parameters for special education teachers. Discussion of special education teachers will be discussed in Component Three, i.e., Special Education/Special Needs.

### Recruitment/retention of teachers

(NOTE: Percentages are from different scales – do not sum to 100%)

Hschool	Most difficulty recruiting		Recruitment Priority		
	Recruitment	Retention			
	Poor/Deficient	Poor/Deficient	High	Moderate	Low
Music	49.3%	43.3%	66.9%	25.2%	7.9%
Sciences	43.8%	32.8%	73.0%	20.4%	6.6%
Art	41.2%	35.3%	40.3%	41.7%	18.0%
Speech	40.5%		35.0%	40.8%	24.3%
Curr-Coor	38.4%		44.6%	25.9%	29.5%
Drama	33.6%		39.3%	37.5%	23.2%
Soc.Stdy	31.2%	22.9%	56.5%	36.2%	7.2%
Im-athl.	29.4%		40.3%	39.5%	20.2%
Guidance	25.6%		50.0%	38.6%	11.4%
girls-athl	22.7%		56.6%	37.2%	6.2%
HPE	21.2%	21.4%	43.3%	42.5%	14.2%
Lib/Media	20.9%		46.6%	40.6%	12.8%
Math	20.2%	14.4%	72.3%	21.2%	6.6%
boys-athl	17.3%		56.9%	36.2%	6.9%
HSAdmin	15.7%		56.0%	32.8%	11.2%
English	14.7%	12.9%	68.3%	23.0%	8.6%
Spec Ed	10.8%		64.5%	27.5%	8.0%
Supt-full	11.4%		57.6%	32.6%	9.8%

Each curriculum area was queried as to the ability to recruit and retain educational personnel to meet accreditation standards. Music, science, art, speech were the areas they reported as having most difficulty recruiting teachers. These same areas of the curriculum presented the most problems in terms of retention as well. The highest recruiting priorities in the districts were Science, Mathematics, English/Language Arts, and Music.

### Procedures-Independent Elementary School Districts

Using a four-student buffer, each school district's enrollment by grade was analyzed and the number of teachers necessary to staff each grade in each school district was computed relative to the maximum enrollment standard for that grade.

Single and two teacher schools were computed based upon the stated procedure. For schools having enrollment between thirty-six and eighty students, i.e., schools having more than two teachers, two procedures were employed. The first procedure computed the fractional FTE necessary for each grade and then summed and rounded up to the nearest FTE. The second procedure combined enrollment of adjacent grades until enrollment required an additional teacher. The maximum of these two procedures was considered to be the minimum FTE requirement for that school.

When enrollment reached approximately eighty students in a school district, the enrollment was sufficient to require schools to utilize single teacher classrooms. The remaining independent elementary school districts were treated as single teacher classrooms and additional teachers were added as enrollment required.

A least squares linear regression was conducted between the computed FTE necessary to meet the assumptions previously stated and enrollment for schools having three or more FTE. These calculations were done in order to determine the potential for enrollment to serve as a component of the funding formula. A high correlation would suggest that enrollment may serve, as a factor for computing how many teachers should be funded for each school district.

### **Joint School Districts, K-12 School Districts, and County High Schools**

For joint and K-12 districts, the 7<sup>th</sup> and 8<sup>th</sup> grades were separated from the remaining elementary grades. FTE for K-6 was calculated in the same manner as the independent elementary districts so as to ensure schools had sufficient teaching FTE to prevent class size from reaching maximum enrollments.

In the absence of individual district level class enrollment data, a least squares linear regression was conducted between the actual elementary FTE remaining after deducting the computed K-6 and the combined 7<sup>th</sup> and 8<sup>th</sup> grade enrollment of each district. A high correlation would suggest that school district administrators are uniformly providing teaching faculty based upon the number of students in their schools. Further, a high correlation in the presence of less than adequate funding would indicate that those teaching FTE levels should be considered the minimum level necessary to meet the State standards.

For the high school portions of the joint and K-12 school districts and for county high schools, in the absence of data providing actual enrollments per class offering, the actual high school FTE and the high school enrollment were subjected to analysis in a least squares linear regression. Again, a high correlation would serve to indicate the minimum level of high school FTE necessary to meet state minimums as established in the Accreditation Standards.

The four-student buffer was not applied to grades 7<sup>th</sup> through 12<sup>th</sup> due to the manner of computing minimum required FTE. Hence, for the four-student buffer has been applied only to K-8 grades for independent elementary school districts and K-6 grades for all remaining elementary districts.

## **Findings**

### **Independent Elementary School Districts**

The analysis determined that 1,101 K-8 regular education teachers would be required to staff the 166 independent elementary school districts. The present number of FTE employed by those districts is 1,164, suggesting that a sufficient number of teachers are presently employed *statewide* for all independent elementary school districts to provide classrooms that do not come within four students of state maximums as well as provide full-time Kindergarten where desired.

The least squares linear regression that was conducted between the computed FTE necessary to meet the assumptions stated previously and K – 8 enrollments resulted in a r-value of .99 with  $r^2 = 99\%$ ,  $p < .0001$ . The resulting regression equation is:

$$\# \text{ FTE for independent elementary teachers} = .053 \times (\text{enrollment}) + 2.41$$

The basic meaning provided by these statistics is that an r-value of .99 is nearly perfect (1.0 representing a perfect correlation), indicating that the method used to calculate elementary teacher FTE for

independent school districts produces a number of teachers for each school district that is predictable from the enrollment. The  $r^2 = 99\%$  means that 99 percent of the predictability of the number of teachers needed may be accounted for by the enrollment of an independent elementary school district having three or more teachers. The  $p < .0001$  indicates that this strong correlation, i.e., .99, would be expected to be found consistently in any elementary school in which the teacher FTE is computed in the previously stated manner based upon enrollment.

Under such favorable findings, a predictor equation is reported to indicate what FTE would be predicted for any enrollment. For example, the number of predicted FTE for an independent elementary school having an enrollment of 1,575 students would be:

$$.053 \times 1,575 + 2.41 = 86 \text{ (rounded up).}$$

### **Joint School Districts, K-12 School Districts, and County High Schools**

The method of computation for teacher FTE for 7<sup>th</sup> and 8<sup>th</sup> grades that was found to contribute the most consistently to the total K-12 FTE was to treat 7<sup>th</sup> and 8<sup>th</sup> grade enrollment separate from high school enrollment and to utilize the linear regression values for 7<sup>th</sup> and 8<sup>th</sup> grades determined in the joint district 7<sup>th</sup> and 8<sup>th</sup> grade calculations.

The linear regression for the 7<sup>th</sup> and 8<sup>th</sup> grades of the joint school districts found an r-value of .97, an adjusted  $r^2 = 93\%$ , and a predictor equation of:

$$\text{Number of Joint 7}^{\text{th}} \text{ and } 8^{\text{th}} \text{ grade teacher FTE} = .0945 \times (\text{Enrollment}) - .15.$$

The linear regression equation for the 7<sup>th</sup> and 8<sup>th</sup> grades of the K-12 school districts was adapted from the joint school district regression and determined to be:

$$\text{Number of K-12 7}^{\text{th}} \text{ and } 8^{\text{th}} \text{ grade teacher FTE} = .088 \times (\text{Enrollment}) - .15.$$

The linear regression for the joint high school districts was found to have an r-value of .999, an adjusted  $r^2 = 99\%$ , and a predictor equation of:

$$\text{Number of joint high school teacher FTE} = .0591 \times (\text{Enrollment}) + 3.7.$$

This equation was also utilized for the K-12 school districts high school FTE.

The county high schools resulted in a slightly different regression equation, i.e.,

$$\text{Number of county high school teacher FTE} = .0564 \times (\text{Enrollment}) + 4.2.$$

### **Recommendations**

Based upon an application of the accreditation standards and utilizing current practices where not possible to directly calculate the appropriate values, it is concluded that, in total, K-12 school districts and county high schools have been able to staff classrooms at the level required of the accreditation

standards; however, the distribution of these teachers may be such that some schools do not have enough teachers.

The teacher FTE calculated herein should be considered the minimum FTE necessary for the state to meet regular education minimum standards. The recommended teacher FTE is 10,136 regular education teachers based upon 436 school districts having an enrollment, for the purposes of these calculations, of 145,165 students.

In addition, the procedures reported herein are statistically valid as a means for future calculations of the minimum regular education teacher FTE when applied under the assumptions as noted.

### **Limitations**

The teacher FTE as stated is recommended based upon a funding formula that distributes funding in such a way that each school district is provided with the proper level of funding to utilize the teachers appropriately.

The teacher totals above include, for the 2004-05 school year, teachers who are federally funded. This does not affect the required number of teachers as per this recommendation, but it does suggest that State officials strongly consider the overall education finance distribution formula that funds this number of teachers independent of federal funding. The number recommended is necessary to provide the classroom structure as required by the accreditation standards and to fund part of that FTE from federal funds would conflict with the federal requirement that federal funding supplement, but not supplant basic services.

At the time of this study, there was conflicting information regarding whether special education teachers were part of the total FTE reported here as actual FTE. The recommended total of 10,136 teachers does not include the number of special education teachers needed by each school district; further, the accreditation standards do not provide direction for determining the minimum number of special education teachers.

The number of teachers for the 2004-05 school year was made available, but it was necessary to use 2003-04 data for the other positions calculated as stated due to 2004-05 data were not made available for this study.

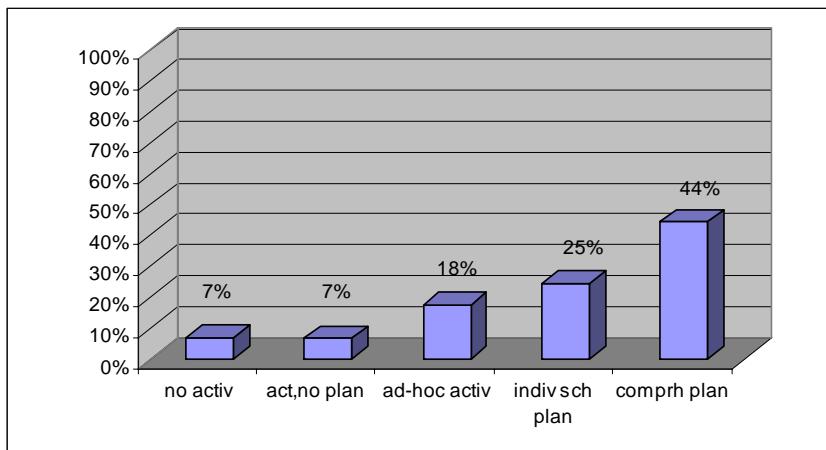
### **Instructional Aides**

Districts are allowed to increase the maximum class size by four students if an aide were hired to assist the classroom when class size is exceeded (10.55.715). As noted in the computation of the minimum number of faculty necessary to meet state accreditation, the computations of full time equivalent employees were made without requiring classroom aides. Therefore, with the proper distribution of funding per district, school districts could utilize present aides for classroom instruction rather than management of overcrowded classrooms.

## **Professional Development**

Standard 10.55.714 requires all teachers and specialists to complete three PIR (Pupil Instruction Related) days per year. The Board of Trustees is required to establish a professional development committee to meet, develop, and recommend a program for professional development for the ensuing school year.

### **Needs Assessment: Annually Determined District-Wide Professional Development Budget**



The District Needs Assessment queried administrators as to the extent to which they are able to address this aspect.

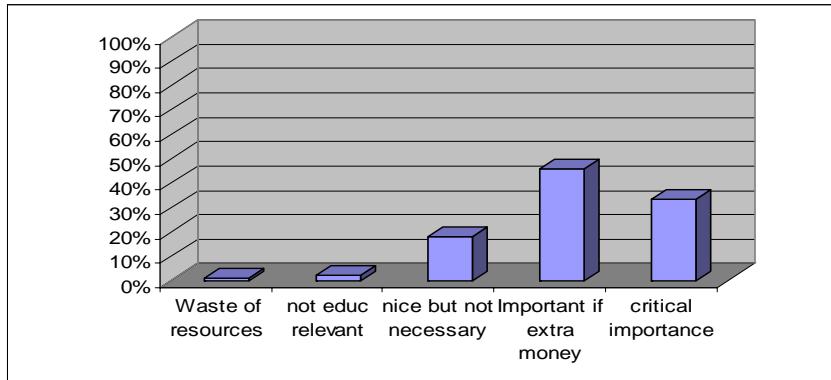
Presently schools are provided with up to a maximum of seven additional days of school funding provided in proportion to the present ANB funding portion of the general fund. Presently, the proportion of the additional ANB funding provided for three days of professional development amounts to approximately \$10,000,000, \$70 per student, or \$1,000 per teacher. Much of this funding is used to compensate teachers for their attendance at professional development activities and programs. The state presently has reasonably rigorous guidelines for ensuring that teachers are compensated only when attending professional development activities. Given the possibility of eliminating the ANB model of funding, it is recommended that this level of funding, \$1,000 for three days of professional development per teacher, be continued by means of whatever form of funding is utilized.

## **School Climate**

Standard 10.55.801 is fairly general in its application of the importance of school climate to a quality education. Of particular importance for funding considerations are 1(c), 1(e), and 1(f). These three parts require schools to create conditions that meet district goals, maintain a quality teaching staff, offer programs that are free of stereotyping based upon a number of factors, and provide programs that meet the needs of at risk students.

The District Needs Assessment also asked administrators concerning school climate elements.

#### 9.4.2 Culturally Relevant, Inclusive and Current Learning Resources are Provided.



Waste of resources	not educ relevant	nice but not necessary	Important if extra money	critical importance
1%	2%	18%	46%	33%

#### 9.2 Program Elements Provide for Equality of Opportunity for All Students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	staying poor	5	1.5	2	2
	declining	13	3.9	5.3	7.3
	staying adequate	73	22	29.8	37.1
	improvng steadily	80	24.1	32.7	69.8
	staying excell	74	22.3	30.2	100
	Total	245	73.8	100	
Missing	0	26	7.8		
	System	61	18.4		
	Total	87	26.2		
Total		332	100		

Item 9.2 of the Needs Assessment indicates that the overwhelming majority of administrators believe that their programs are adequate, excellent or improving steadily relative to this aspect of school climate.

As noted, moderate classroom enrollments are an important contribution toward school climate, which ultimately exists to foster a quality of education for all students. Many other factors involved in the school climate requirements that lend themselves to some degree of quantification are addressed in separate components in this report and considered at that point.

### **Opportunity of Educational Equality**

Standard 10.55.802 is a very important standard and at the same time, difficult to determine even a present cost, much less an ideal cost. This standard requires each school district to provide for the equality of educational opportunity regardless of sex, race, marital status, national origin, physical, or mental conditions. These opportunities are to include programs, facilities, texts, curriculum, counseling, library services, and extracurricular activities.

Equality of opportunity is largely dependent upon one's definitions and approach to this highly complicated and interwoven public policy arena.<sup>13</sup> This is not to imply that all facets of an equitable system of financing education have been discovered or that any state has achieved complete equity for students and taxpayers because the understanding of equity continues to expand.

If adequacy were the concept of having enough resources to provide for children's educational needs, equity is the concept of a fair and just method of distributing resources among those same children. More than a quarter of a century ago, Benson succinctly summarized the depth of the issue of equity versus equality:

Obviously, providing equal dollar inputs for unequal students produces unequal results. Equal spending does not make education the 'great equalizer of the conditions of men' as Horace Mann suggested in the last century. If education is to facilitate the movement of the poor and disadvantaged into the mainstream of American social and economic life, if it is to afford everyone equal probability of success (however one defines it), then equal facilities, teaching skills, and curriculums are not the answer. Additional resources must be made available to students who enter and pass through the educational system with handicaps such as language barriers for which they are not responsible.<sup>14</sup>

While many people continue to believe that equality requires all persons to be treated the same, or fail to go beyond Benson's reference to a limited special population, equity has taken on a progressively more sophisticated meaning. Equality and equity have become widely different concepts in an attempt to change policies and practices surrounding these difficult issues. Yet while equity and equality differ, the interrelationship is vitally important. In a summative sense, equity may be seen as the precondition of equality where the hope for equal opportunities requires unequal inputs.

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<sup>13</sup> Much of this discussion is adapted from R. Craig Wood and David C. Thompson, *Public School finance*, prentice-Hall, Forthcoming.

<sup>14</sup> C. S. Benson, et al., *Planning for Educational Reform*, (New York: Dodd, Mead, 1974), 8.

Concern for equity raises questions of how sensitive a society should be concerning equitable treatment of individuals or groups. These are not easy questions due to the undeniable fact that resources are limited, and policymakers have had to settle for less than fully satisfactory solutions for a host of societal needs and issues. While no one questions that children must be the objects of equity, often, the search for solutions has been confused. Clearly, it would be an easier task to focus on either children or taxpayers, but the interrelatedness of these groups complicates the issue, particularly as every taxpayer has a different level of financial ability to support education; a complex problem since all states except Hawaii have many school districts, all with varying tax base capacities. Is it prerequisite of an equitable finance plan to microscopically examine the impact of an education finance distributional aid formula regarding each child, or is it enough to provide roughly equal moneys to similar children? In the first instance, equity might require that finance systems be evaluated by research methods in which the grasp of education finance researchers is quickly exceeded by moving into micro level and psychological dimensions of education or beyond the capability of social science research. In the second instance, equity might propose that children be exactly equal in funding within a state, with recognition of other needs such as disabilities, low enrollment, geographic isolation, or similar circumstances. But under such a plan, perfect equity and equality are conceptually abandoned due to the fact that children are not treated individually. No method assures equal outcomes; the focus remains on front-loading in hopes of a better product.

One of the most important questions is whether equity should be considered only on the horizontal (equal treatment of equals) dimension, or whether it should be extended to the vertical (unequal treatment of unequals) dimension as well.

Critically important is the basic question of how equitable the system should be. Equity is so profoundly broad in its potential definition that nothing less than absolute income equality might be required if socio-economic opportunity in an egalitarian society were ever to be fully achieved, an issue which would represent the antithesis to the founding of the nation. These and many other problems continue to plague the search for fiscal equity, even when all parties agree that children are the primary focus. The current sophistication of research is such that inequity is relatively easily identified, but solutions are technically difficult and politically improbable. The best scenario yet to be realized has been compromise, calling for continued sensitivity and vigilance to the critical value of education, and seeking to apply justice to education on the broadest acceptable scale. Thus, in many instances, the actual education finance distributional formula is incremental in nature taking several years to develop and be refined over time.

Education and socio-economic status are linked. Educational needs will continue to increase while the public debate continues and the controlling principle of economics, which pits unlimited needs and wants against finite resources, will endure. Thus, the overall specter is both simple and profoundly enduring

## **Curriculum Development and Assessment**

Accreditation Standard 10.55.603 (1) requires schools to align to state content and performance standards. In addition, assessment of all students is to be conducted and used for measurement of program effectiveness relative to the content and performance standards. While most schools should have already completed the alignment phase, the assessment of phase is ongoing and requires

continuous funding. In addition, school districts are required to track graduates and other students not in attendance and to use the tracking information for curriculum and assessment development.

Part (2) requires the curriculum, particularly curriculum related to Indian Education for all, to be reviewed at least every five years to meet educational goals, to utilize new curriculum materials and resources as per the curriculum review.

Part (3) of this standard requires the development of assessment processes for all program areas and the use of multiple measures and methods to assess student progress in achieving content and performance standards in all programs areas.

Part (4) requires the use of measures of standards identified by the Office of Public Instruction that are not adequately assessed by norm-referenced tests in reading and mathematics in grades 4, 8, and 11.

The most immediate concern regarding curriculum development is the number of school districts (415/436), for which a regional curriculum coordinator is considered sufficient to meet the needs of a district. This may be a result of the lack of specific funding made available to school districts for employing curriculum coordinators, and therefore an effort to reduce the burden for school district administrators to find funding within their budgets for an additional certified employee. It is recommended that the State provide proportional funding based upon enrollment for all school districts to specifically employ curriculum coordinators and allow sufficient funding to employ a FTE curriculum coordinator at a smaller school size than presently allotted in the accreditation standards.

The assessment issues in this standard are covered in Component Seven, Assessment of Student Achievement.

## **Learner Access**

Standard 10.55. 803 requires the following learner access considerations:

1. matching interests, readiness, and learning styles to learning experiences.
2. cultural diversity of minorities, particularly American Indian students.
3. develop an understanding of values and contributions of Montana American Indians for all students.
4. develop learning resources that are culturally relevant.
5. provide equal access to learning resources, including technology.
6. provide instructional materials that are compatible with previous and future offerings.
7. provide books and materials that reflect authentic history and contemporary portrayals of American Indians.
8. Using school criteria, identify at risk and special needs students.

These requirements will be further discussed in Component Two, Special Education, Special Needs.

## **Gifted and Talented**

Gifted and talented requirements are found in 10.55.804 and are expressed as follows:

1. Schools shall provide educational services to gifted and talented students commensurate with their needs.
2. Each school must comply with all federal and state laws and regulations addressing gifted and talented.
3. Each school shall provide structured support and assistance to teachers in identifying and meeting gifted and talented student needs.

These requirements will be further discussed in Component Two, Special Education, Special Needs **Special Education**

Montana public K-12 schools have the following responsibilities under the accreditation standards as provided in 10.55.805:

1. Each school must comply with all federal and state laws and regulations addressing special education.
2. Each school shall provide structured support and assistance to teachers in identifying and meeting special education student needs.

These requirements will be further discussed in the Component Two, Special Education, Special Needs **Board of Trustees**

The funding of Board of Trustee costs is specifically addressed in 10.55.701. The cost of membership dues, legal fees, in-service training, public relations, supplies, and equipment are all costs incurred by the school district. While not a large budget item, it still represents a direct cost to the general fund based upon specific mention in the definition. Assuming funding levels are increased to address the shortfalls identified in the studies conducted for that purpose, it can be assumed that present levels of funding adequately address this accreditation standard.

## **Component Two**

### **Special Education and Special Needs Students**

#### **Introduction**

Special education and special needs are addressed several times in the accreditation standards (e.g., 10.55.805), but SB152 delineated Special Education separately in order to provide specific attention to the importance of ensuring its role in Montana public education. This component of the cost analysis is considered for the purpose of this study to consist of the following major factors:

1. Students with disabilities;
2. Students falling under Section 504;
3. Students who are at risk;
4. Students with limited English proficiency; and
5. Students who are gifted and talented.

Each of these factors is discussed individually in further detail in order to provide an overview of how specific costs were determined.

## **Students with Disabilities**

The first factor, students with disabilities, is defined in the Montana Code Annotated 20-7-401(4) as a "Child with a disability" means a child evaluated in accordance with the regulations of the Individuals With Disabilities Education Act as having cognitive delay; hearing impairment, including deafness; speech or language impairment; visual impairment, including blindness; emotional disturbance; orthopedic impairment; autism; traumatic brain injury; other health impairments; deaf-blindness; multiple disabilities; or specific learning disabilities and who because of those impairments needs special education and related services. A child who is 5 years of age or younger may be identified as a child with a disability without the specific disability being specified.

Montana Code Annotated 20-7-401(4)

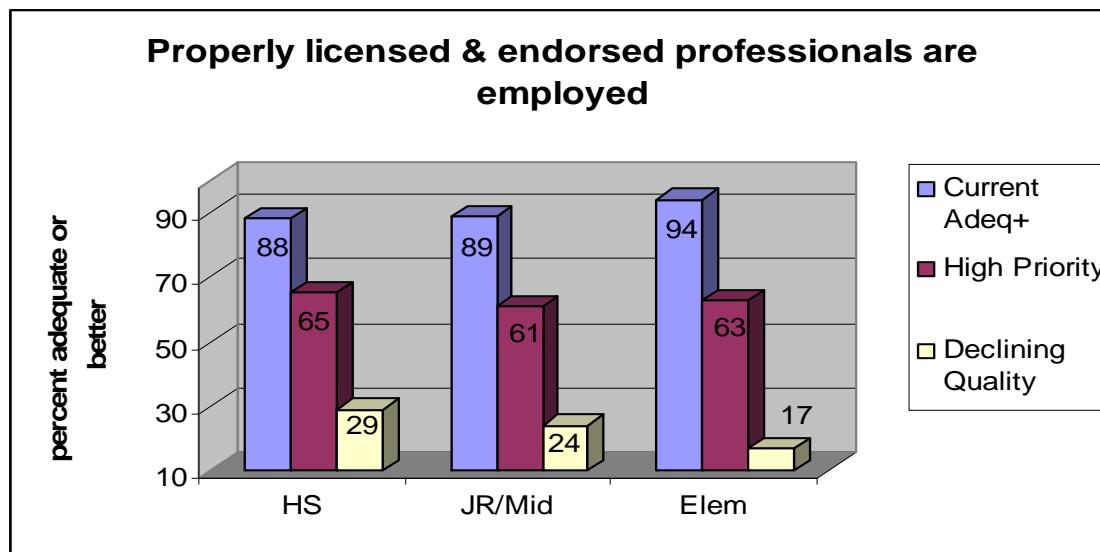
Special education is very difficult to determine a district-by-district cost owing to the potential for a school district to have very large costs for any given year relative to another district the same size.

Fortunately, special education now has a substantial history and its costs, while continuously under litigation for clarification, are fairly well established. Funding mechanisms are in place to assist school districts with extraordinary costs.

The needs assessment did not indicate an extreme level of concern for the level of special educational funding. Consequently, this analysis does not recommend an additional cost for the 2004-05.

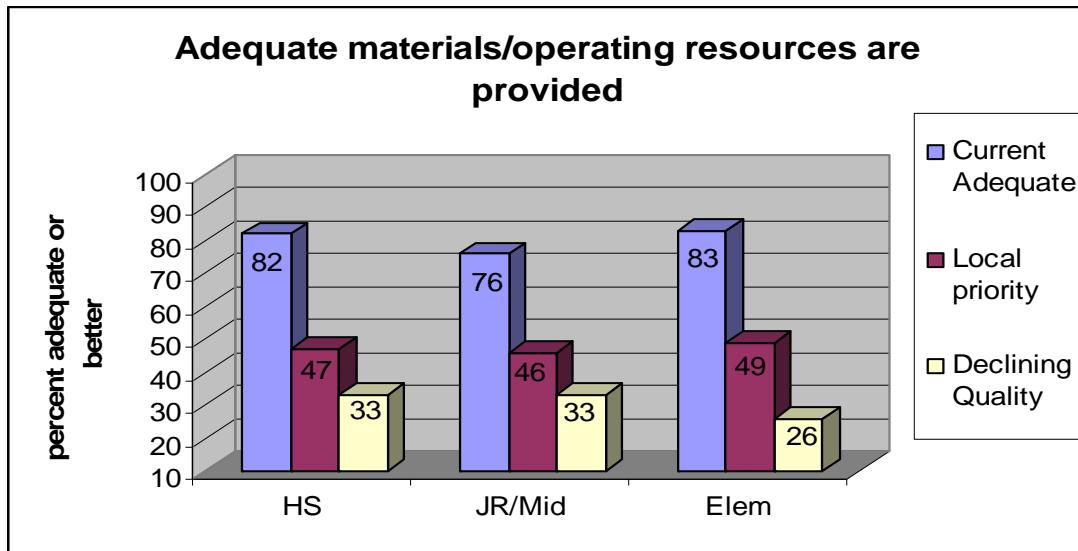
The District Needs Assessment requested information from administrators in relation to three program aspects as defined by State Accreditation Standards. These aspects occurred as variables (1.10.1.) Properly licensed and endorsed professionals are employed as needed.

### **Needs Assessment - Special Education**



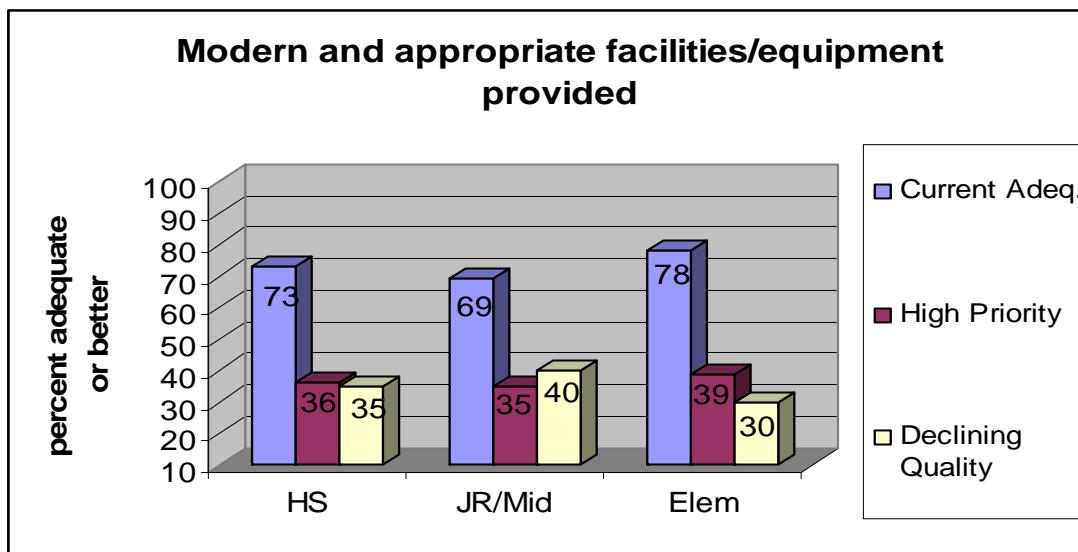
- All grade levels report currently adequate or better conditions in terms of employing properly certified and licensed professionals in special education.
- Most districts (irrespective of grade level) view employing special education professionals as a high priority, and

- A greater percentage of high schools than elementary schools report declining ability to hire licensed special education professionals.



- A high percentage of schools (irrespective of grade level) report adequate or better operating resources for special education.
- As a result, less than half of the districts see this as a high budget priority.
- However, roughly one-fourth to one-third of the districts report declines in this area.

#### (1.10.3.) Modern and Appropriate Facilities and Equipment are Provided.



- A high percentage of schools report adequate to better facilities and equipment for special education programs.
- As a result, only slightly more than one-third of the districts report facilities as a high priority.
- However, roughly this same percentage report declines in this area.

## **Recommendations**

The following recommendations are suggested:

Special education should be considered for funding that is designed not to compete with the general fund. Hence, in the discussion of the overall finance distribution formula the reflection of student weights for special education students is shown. When school districts have regular and special education funding mixed in the same fund, a concern arises from time to time that funding is taken from one group and given to another, with one group winning at the expense of the other. This sometimes places special education in competition with regular education and unnecessary conflict can arise that further places a burden on the opportunity for success of some students.

Special education teachers should be provided with guidelines that help them receive the same considerations as the classroom teacher regarding maximum student load. Presently there are 907 special education teachers supervising the education of approximately 12 percent of the students in Montana. While special education teachers are assisted by an average of approximately 1.3 aides per special education teacher, there must be consideration given for the additional load placed upon them for their supervisory responsibilities in overseeing the work of their aides. In addition, special education teachers often spend a significant amount of time working with classroom teachers, administrators, attending Child Study Team and Individual Education Program meetings, and volumes of recording keeping responsibilities. Most special education teachers also administer assessments of their students that are required to meet federal and state regulations. Special education teachers are difficult to recruit and particularly to retain. A reasonable consideration of their workload would help alleviate some of those barriers to providing a strong special education program within each school district.

The following spreadsheet is included to provide an idea of the additional expenses associated with special education and the immediate difficulty a school district experiences when funding is inadequate.

## Spreadsheet of Allowable Costs for Children with Disabilities

- 1) Salaries and Benefits
  - a) Special Education Teachers
  - b) Regular Program Teachers
  - c) Teacher Aides
- 2) The total cost of teaching supplies and textbooks
- 3) Instructional equipment required to implement a student's individualized education plan
  - a) Purchasing new equipment
  - b) Rental Equipment
  - c) Repair
  - d) Maintenance
- 4) Activities associated with teacher assistance teams that provide pre-referral intervention
- 5) The cost of contracted services
  - a) Fees paid for professional advice and consultation regarding special students or the special program
  - b) The delivery of special education services by public or private agencies
- 6) Transportation costs for special education instructional personnel who travel on an itinerant basis:
  - a) From school to school
  - b) From district to district
  - c) To in-state child study team meetings
  - d) To in-state individualized education program meetings

### **Related Services** (corresponding to the working time each person devotes to the special program)

- 1) Salaries and benefits of professional supportive personnel which may include:
  - a) Special education supervisors
  - b) Speech-language pathologists
  - c) Audiologists
  - d) Counselors
  - e) Social workers
  - f) Psychologists
  - g) Psychometrics
  - h) Physicians
  - i) Nurses
  - j) Physical and occupational therapists
  - k) Other
- 2) The cost of salaries and benefits of clerical personnel who assist professional personnel in supportive services
- 3) The cost of supplies for special programs
- 4) Activities associated with teacher assistance teams that provide pre-referral intervention
- 5) The cost of contracted services
  - a) Fees paid for professional advice and consultation regarding special students of the special program
  - b) The deliver special education services by public or private agencies
- 6) The additional cost of special education cooperatives or joint boards, including:
  - a) Operation and maintenance
  - b) Travel
  - c) Recruitment
  - d) Administration

The second factor of this component relates to the obligation under what is known as Section 504. This factor is similar in purpose to special education in that Section 504 seeks to broaden the scope of people under which accommodations are to be made in the workplace and/or school. School districts are to provide special accommodations for employees and students alike under Section 504 and the costs, like Special Education costs, will vary substantially from administrative unit to administrative unit across the state. Specifically, Section 504 is defined as follows:

No otherwise qualified individual with handicaps in the United States...shall, solely by reason of her/his handicap, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance under any program or activity conducted by any Executive agency or by the United States Postal Service.<sup>15</sup>

According the OPI website, "Section 504's requirements to ensure that the educational system provides the full range of special accommodations and services necessary for individuals with disabilities to participate in and benefit from public school education programs and activities." The focus is on subpart C, program accessibility, and subpart D, preschool, elementary, and secondary education of section 504.

The accessibility aspect of Section 504 has had an impact on public schools over the past few years. Many, if not most, of the schools have addressed accessibility issues and most likely do not present an immediate need for additional funding based upon Section 504 considerations, although it must be recognized that Section 504 costs can be influenced substantially by litigation and subsequent interpretations of school district responsibilities.

The following spreadsheet is included to show the close relationship Section 504 has to Special Education and to provide a concept of the additional potential expenses associated with Section 504 that a school district has for a broader population of students (and employees).

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<sup>15</sup> 29 USC 794

***Spreadsheet of Allowable Costs for Section 504***

- 1) Salaries and Benefits
  - a) Regular Program Teachers
  - b) Teacher Aides
  - c) Section 504 compliance coordinator (if the district employs more than 15 persons (34 CFR 104.7[a]).
- 2) The total cost of teaching supplies and textbooks
- 3) Instructional equipment required to implement a student's individualized education plan
  - a) Purchasing new equipment
  - b) Rental Equipment
  - c) Repair
  - d) Maintenance
- 4) Activities associated with teacher assistance teams that provide prereferral intervention
- 5) The cost of contracted services
  - a) Fees paid for professional advice and consultation regarding special students or the special program
  - b) The delivery of special education services by public or private agencies
- 6) Transportation costs for special education instructional personnel who travel on an itinerant basis:
  - a) From school to school
  - b) From district to district
  - c) To in-state child study team meetings
  - d) To in-state individualized education program meetings

**Related Services** (corresponding to the working time each person devotes to the special program)

- 1) Salaries and benefits of professional supportive personnel which may include:
  - a) Special education supervisors
  - b) Speech-language pathologists
  - c) Audiologists
  - d) Counselors
  - e) Social workers
  - f) Psychologists
  - g) Psychometrics
  - h) Physicians
  - i) Nurses
  - j) Physical and occupational therapists
  - k) Other
- 2) The cost of salaries and benefits of clerical personnel who assist professional personnel in supportive services
- 3) The cost of supplies for special programs
- 4) Activities associated with teacher assistance teams that provide peripheral intervention
- 5) The cost of contracted services
  - a) Fees paid for professional advice and consultation regarding special students of the special program
  - b) The deliver special education services by public or private agencies
- 6) The additional cost of special education cooperatives or joint boards, including:
  - a) Operation and maintenance
  - b) Travel
  - c) Recruitment
  - d) Administration

## **At Risk Students**

The first consideration for determining the cost of at risk students is to resolve the state of Montana's definition for at risk. SB152 provides the following definition: "At risk student means a student who is affected by the environmental conditions that negatively impact the student's educational performance or threaten a student's likelihood of promotion or graduation."

This definition suggests the following: Students are at risk if they are affected by environmental conditions that negatively impact their (a) educational performance, (b) threaten their likelihood of promotion or graduation

In addition to the state definitions of at risk, the accreditation standards, as provided in Montana Accreditation Standards 10.55.803(2)(i), provide for school districts to provide a local definition of at risk, that is, "identify, using the school's own criteria, students who may be at risk or in need of special services."

A brief analysis of state data regarding student achievement provides an immediate identification of a population of students who meet numerous criteria of at risk students. As a result, it is the recommendation of this section of the report that Montana's at risk students, represented in part by a substantial Native American population, should be given a very high priority in the forthcoming determination of allocating of state resources for funding a quality education. The following arguments are advanced to that end:

1. The achievement gap is not a problem that will be resolved quickly and/or by additional funding provided in hopes that achievement somehow improves. The challenge of addressing the needs of these students represents an exceptional opportunity for the state of Montana and its educational system from pre-school to graduate levels of higher education. If Montana officials were to address this challenge with an intensity and seriousness that simply will not accept failure, an important door would open for all Montana children.
2. To have a substantial number of Native American students, some 17,000 or 12 percent of all Montana students, several thousand of whom are not going to graduate from high school, provides the state with an ideal opportunity to demonstrate the quality of its educational system. This size of population provides for both a large enough number to ensure some generalizability but small enough to be a manageable research population.
3. The achievement gap is not a problem isolated to 12 percent of the student enrollment; rather, the failure to achieve is a problem that affects every Montana resident. In the same manner, the solution to this problem is a statewide responsibility, and consequently, lends itself to be addressed within the state financial aid distribution formula.
4. The research opportunities and the findings from the research that would identify what works for whom and what does not work for whom would be invaluable in extending the problem of achievement to other population of students, including the possibility of also improving the achievement for other special needs students and well as regular and gifted education.
5. An equally serious implementation of the Indian Education for All (IEA) (addressed specifically in Component Three, Indian Education for All) program could be expected to begin to address a perception of apathy and irrelevance of the curriculum for Native American students. The IEA program would begin to build an association between education and human dignity for all, a necessary condition for students to find consistency between education and their aspirations for achieving an education.

The first recommendation is to form an appropriate committee that will develop and oversee an agenda having aggressive timelines, benchmarks, and assessments. This committee should request a number of people have differing competencies to assist in reviewing previous research and studies and based upon what is known and what is necessary yet to know regarding Montana's Native American youth and their education.

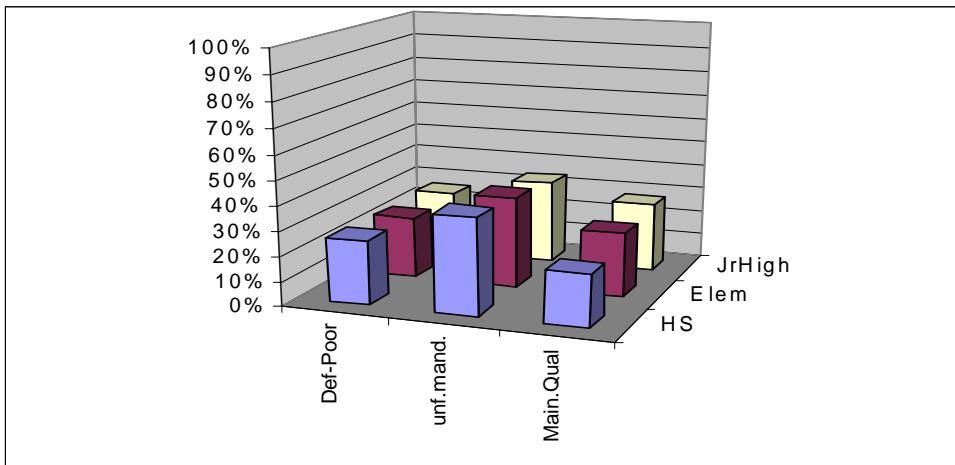
This combined group should develop a list of research questions to be answered prior to implementing a methodology for the solution to this challenge. Based upon this work with Montana's educators and tribal resource people and other appropriate persons, a comprehensive plan should be developed that addresses the achievement gap in a way that evidences a serious commitment to this need.

Once the committee has given a general structure to the research necessary to be conducted, university personnel, particularly professors and graduate students in the schools of education, should be extended the honor of participating in research that provides the best possible answers to these research questions. Research conducted by the university system personnel would benefit the at risk population as well as those who educate future teachers as they would be involved in the research and provide those research findings in their coursework.

If the committee and their advisors can engage researchers and hold everybody involved to rigid timelines, a meta analysis of existing research combined with any appropriate findings from research conducted under the direction of the committee would be in place to provide the basis of developing a formal plan during the summer of 2006 and ready to implement beginning with the 2006-07 school year.

This plan would be expected to have identified the most urgent priority that, when successfully addressed, could be expected to lead to better achievement, though not immediately. The achievement gap will not be easily eliminated or it would have been eliminated a long time ago. It will be important to undertake this challenge with small incremental and prioritized steps. Each step should be assessed according to its purpose.

For example, if the plan were to determine that the first incremental step to take toward higher achievement is to improve attendance, then the assessment of the success of the intervention should not be taken from indicators from standardized tests; rather, the measurement of success should be the degree to which the goal, in this case, attendance, has improved. The final goal of higher achievement should be assessed only after all of the steps have been implemented. The interventions applied are designed *in total* to improve the achievement gap, with each step building the foundation for the next step.

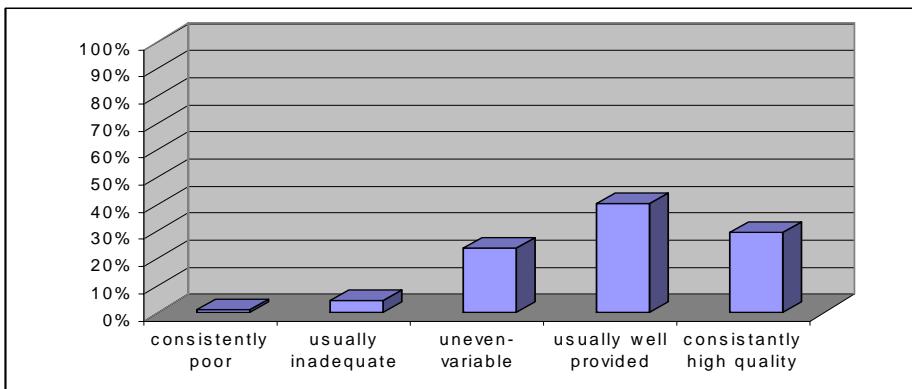


	Def-Poor	unf.mand.	Main.Qual
HS	26%	39%	21%
Elem	25%	37%	26%
JrHigh	26%	34%	28%

One-fourth of all school districts report programs for closing the Native American achievement gap are deficient or poor, while one-third suggest that this is an unfunded mandate of the state. Finally, only one fourth of the school districts reported that they have and are maintaining quality programs for closing the Native American achievement gap.

When asked whether they are able to provide equal learning opportunities for Indian and minority students, only 30 percent of the school districts reported that they could provide consistently high quality learning opportunities for all. An equal percentage reported that such opportunities were inconsistently provided or inadequate.

### Equal learning opportunity for Indian and Minority children



Eliminating the achievement gap will never happen if funding were appropriated based upon inappropriate indicators because improving attendance will not immediately lead to meeting AYP and, therefore, a possible loss of funding. It will take a successful implementation of all interventions before the necessary education will result that will lead to eliminating the achievement gap.

It is the recommendation of this research team portion that the single most important step the Legislature can take is to make a visible commitment to successfully address the achievement gap in all students, with a particular emphasis on the Native American students who represent a substantial block of the at risk needs.

It could be suggested that well in excess of \$50 million could and perhaps will be expended in meeting this problem. However, it would be prudent to fund incrementally, with funding following preparation and findings. The commitment from the Legislature must be understood to be long term. The cost of successful interventions as well as new interventions must be considered as part of the basic level of funding; while funding new interventions on the road to the final end as demonstrated within the overall school finance distribution formula.

## **Recommendation**

The conclusion of this study is that the single biggest deficit in the state's level of funding K-12 public education lies in having yet to meet the accreditation standards and associated components of SB152 that address the needs of at risk students, particularly the Native American students who are specifically identified numerous times in the accreditation standards and definition provided in SB152 as in need of special consideration in the state's educational structure. The following costs are recommended for the remainder of the current biennium.

1. The necessary costs for a committee to function and ensure the necessary preparation for a viable plan is completed and ready for its initial phase for the 2006-07 school year. Cost: \$100,000
2. The cost of the first phase of the plan. Provide budget authority of \$5,000,000.  
These costs are not based upon an actual format; rather, the above recommendation is designed to ensure money is available for a substantial intervention, perhaps on just a single school from each reservation or however the plan determines what is best in order to find what works and what does not work.

The committee should take their working model and the initial results thereof along with their funding needs for the next two-year phase of their plan to the 2007 Legislature in order to continue what is expected to be a long-term and statewide effort to eliminate the achievement gap.

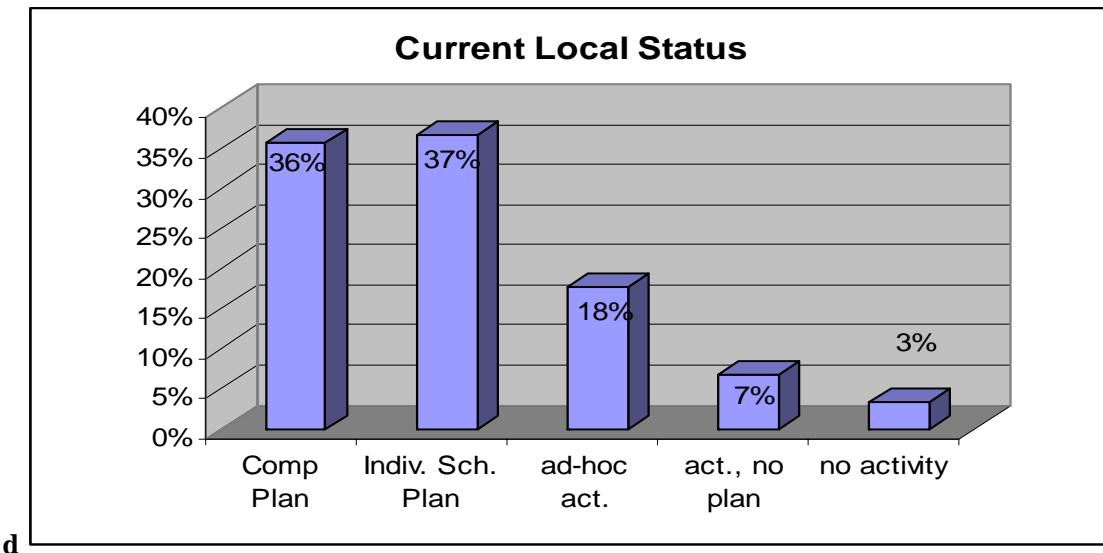
## **A Brief Examination of the Data on Native American Achievement Gap**

See Appendix D for comments specific to Native American students regarding their achievement gap.

### ***A Note on Assessment for At Risk Students***

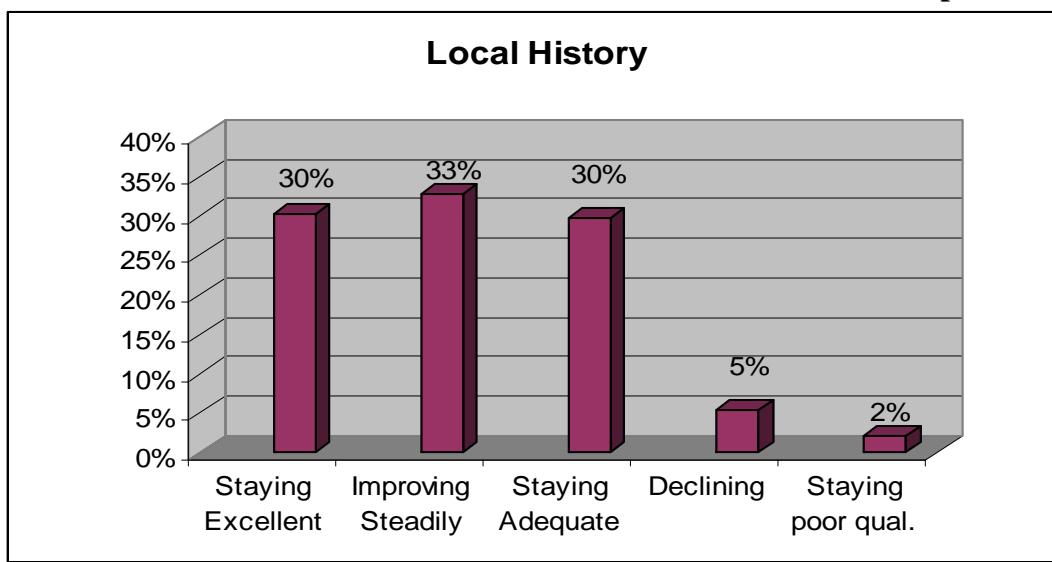
See the Appendix for comments specific to at risk students regarding their assessment.

### **9.5.1 Factors that Put Students At Risk of Failure or Dropout are Identified**



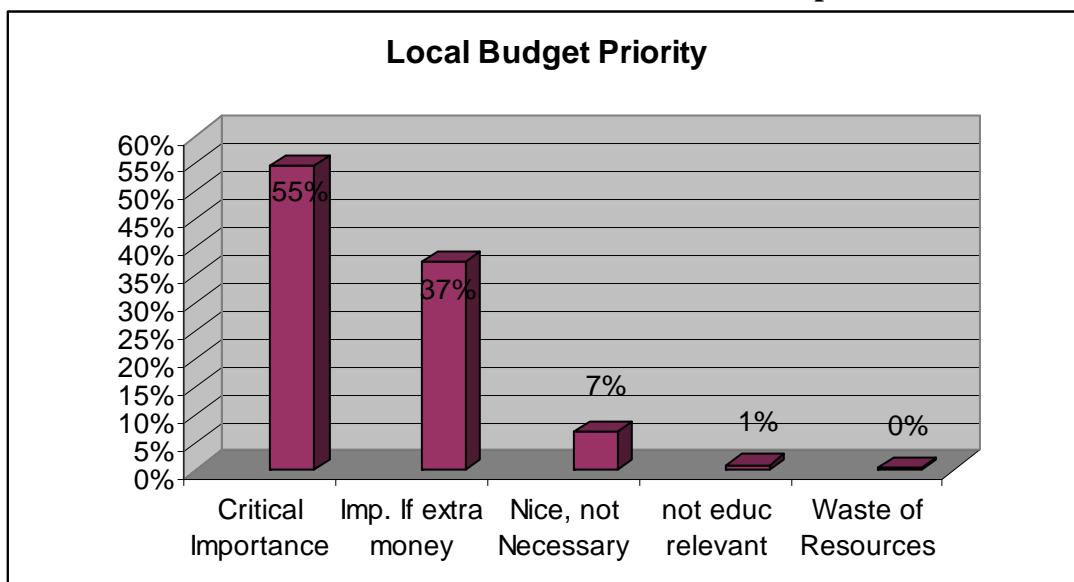
While only 36 percent of responding districts report having a comprehensive plan for identifying “at-risk” students, some districts handle planning on an individual school basis. Thus, the Needs Assessment found that as many as 73 percent of the school districts may have a comprehensive plan that identifies at-risk students. Only 10 percent have no plan or no activities identifying at-risk students.

### **9.5.1 Factors that Put Students At Risk of Failure or Dropout are Identified**



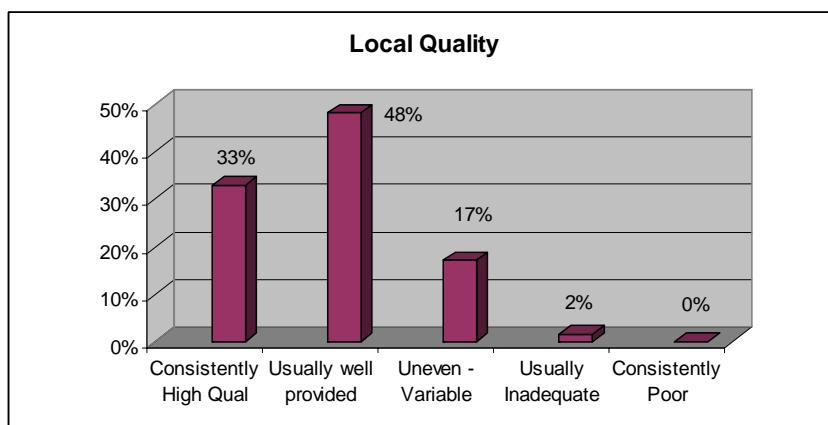
Approximately 93 percent of all school districts report adequate to excellent programs of identification of at-risk students.

### **9.5.1 Factors that Put Students At Risk of Failure or Dropout are Identified.**



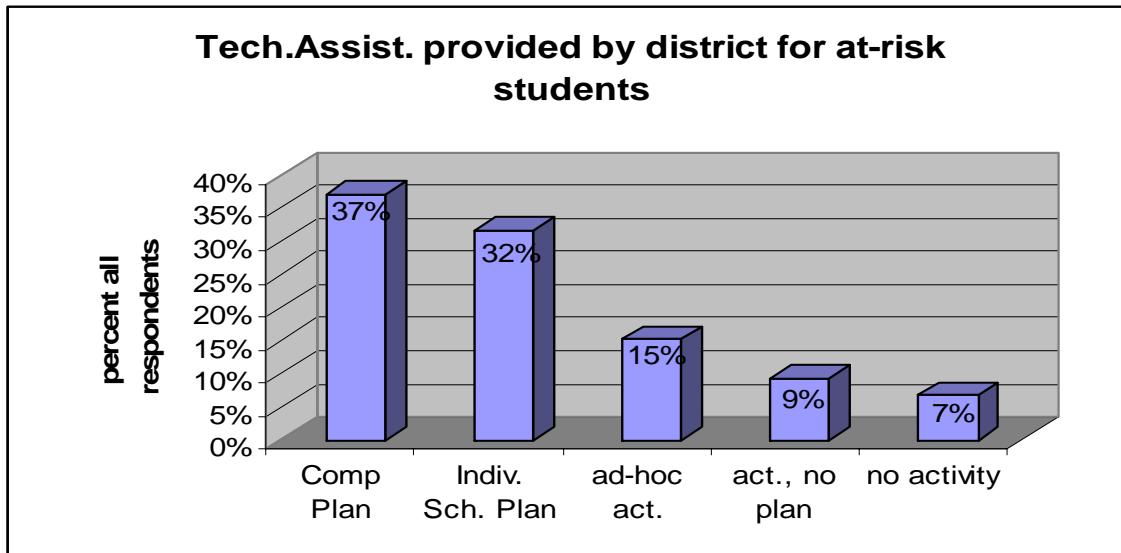
Over half of all school districts report that identification of at-risk students is of critical importance. However, a substantial percentage of school districts, 37 percent, report that it is important only if there are extra resources available.

### **9.5.1 Factors that Put Students At Risk of Failure or Dropout are Identified**



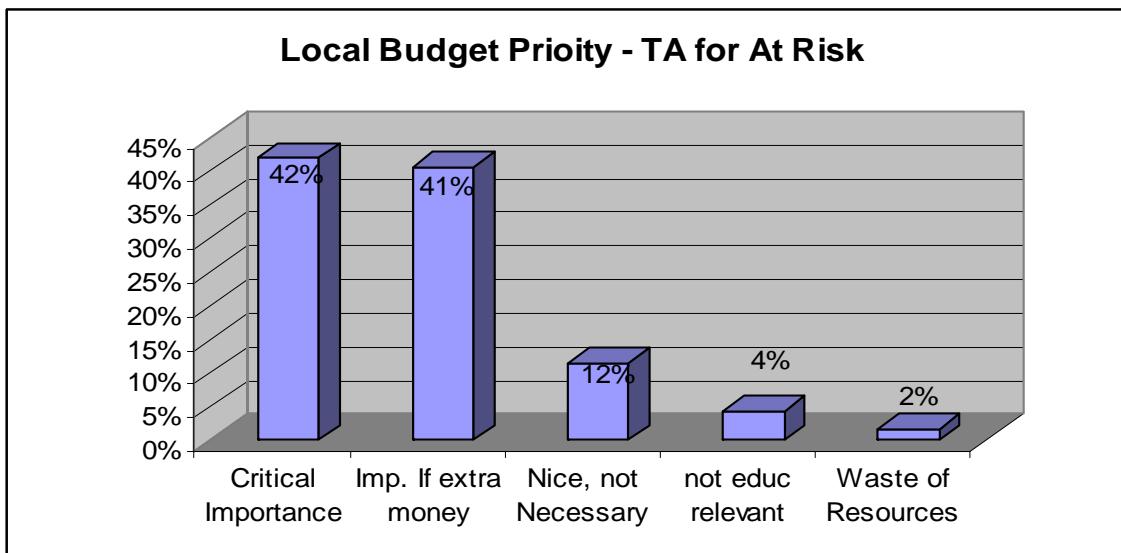
Eighty-one percent of all school districts report that programs for identification of at-risk students are usually well provided or are consistently high quality. Less than 20 percent report having any difficulty providing such programs.

### **9.5.2 Technical Assistance is Provided by the District to Address Students Identified as At Risk**



Nearly 31 percent of all school districts report no district plan for providing technical assistance to address students identified as at-risk.

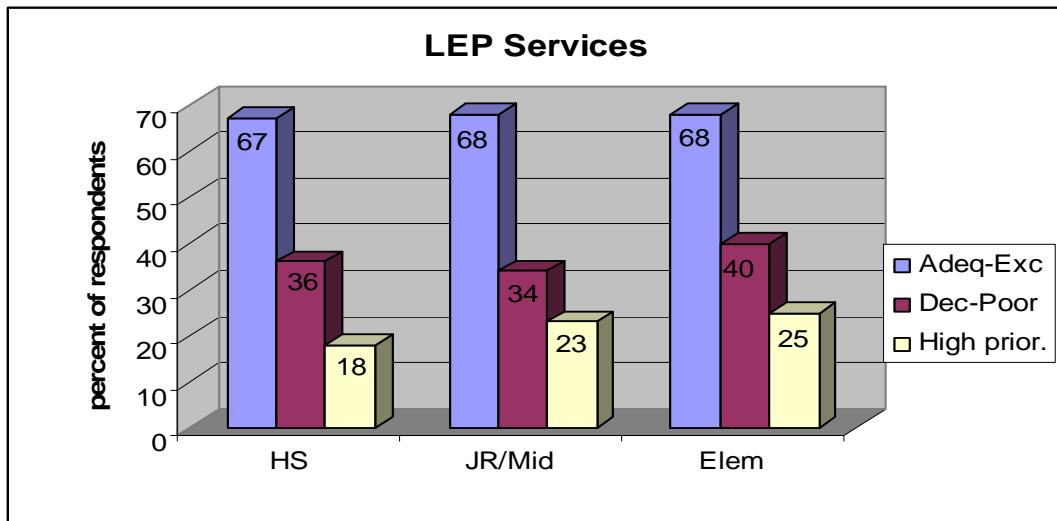
### **9.5.2 Technical Assistance is Provided by the District to Address Students Identified as At Risk**



### **Limited English Proficiency**

This category of at risk should be included in the research agenda of the committee working on the achievement gap.

### **5.5.1 Our Schools Provide Programs and Services for Limited English Proficient (LEP) Students.**



The majority of schools at all levels report Adequate-to-Excellent services provided to Limited English Proficient students. At the same time, 35 to 40 percent of the school districts report declining or poor services for LEP students and only 25 percent of elementary schools list this factor as a high priority.

### **Gifted and Talented**

Gifted and talented students are found throughout all cultures and groups in Montana. Funding for G&T programs has been relatively low, ranging somewhere around \$1 per student.

A possible approach to providing school districts with a realistic means to meet this accreditation standard in a manner that meets the needs of this population would be similar to the approach recommended for the achievement gap issue.

This approach would provide funding for an agency or private party to collect data from all school districts who would choose to share their programs and the strengths and weaknesses therein. These programs, along with their costs, could be categorized and provided in a form that gives the essential components of each of the types of programs and gives direction to school districts requiring improved G&T offerings to their students.

The same party collecting the above data should also be responsible for enlisting appropriate district educators representing models in each of the categories for formal presentations. The recommended dedicated funding to provide this structure to begin to implement a statewide functional gifted and talented education as per Montana accreditation standard is \$50,000.

Based upon the findings and cost of models available, the 2007 Legislature would have a realistic basis for funding G&T and upon adequate funding, have expectations of school districts meeting the accreditation standards for G&T.

A number of items addressed the element of programs and services for Gifted and Talented students. The following tables from the Needs Assessment describe the extent to which schools feel they are able to provide for these needs.

**9.7 District provides service to meet Gifted/Talented needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<b>no activity</b>	19	5.7	8.4	8.4
	<b>Act, no plan</b>	39	11.7	17.3	25.8
	<b>ad-hoc activity</b>	54	16.3	24	49.8
	<b>Individual school plan</b>	61	18.4	27.1	76.9
	<b>comprehensive plan</b>	52	15.7	23.1	100
	<b>Total</b>	225	67.8	100	

This table indicates that nearly 50 percent of all schools have only ad-hoc activities, or no plans or no activities designed to serve gifted and talented students.

**9.7 District provides service to meet Gifted/Talented needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<b>consistently poor</b>	8	2.4	3.7	3.7
	<b>usually inadequate</b>	33	9.9	15.1	18.7
	<b>uneven-variable</b>	86	25.9	39.3	58
	<b>usually well provided</b>	74	22.3	33.8	91.8
	<b>consistently high quality</b>	18	5.4	8.2	100
	<b>Total</b>	219	66	100	

Similarly, this table indicates that nearly 60 percent of all school districts report uneven or variable, usually inadequate or consistently poor services provided to gifted and talented students.

The final table addresses the issue of whether school districts provide supports to identify gifted and talented student needs. Here again, nearly one-half of all districts have only ad-hoc activities, no plan, or no activities designed to identify G/T needs.

**9.7.2 District provides support to identify G/T needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<b>no activity</b>	22	6.6	9.4	9.4
	<b>Activities, no plan</b>	41	12.3	17.6	27
	<b>ad-hoc activity</b>	50	15.1	21.5	48.5
	<b>individual school plan</b>	64	19.3	27.5	76
	<b>Comprehensive plan</b>	56	16.9	24	100
	<b>Total</b>	233	70.2	100	

### **Component Three**

## **Indian Education for All**

### **Introduction**

The Indian Education for All (IEA) component as part of the definition of quality education embodied in SB152 is taken directly from the Montana Constitution.<sup>16</sup> District Judge Sherlock noted that in spite of the Constitutional requirement to provide Indian Education for all, the state had never funded or provided any structure for implementing this requirement. Consequently, very little has been formally provided for school districts in the way of direction or materials that would accomplish the purpose and intent of Indian Education for All.

As a result, this component of the cost analysis was dependent upon a nonexistent statewide model of development and delivery of an acceptable format for implementing and sustaining the Indian Education for All programs throughout Montana public schools. In order to provide a recommend cost for this component, it was necessary to make numerous assumptions regarding the structure and format of a possible program satisfying SB152. The following format was outlined by Joyce Silverthorn, who in turn consulted with numerous leaders and interested parties within the Montana tribal communities. While this model does not represent a required format for delivery, it does provide one possible format, the statewide cost for which has been estimated based upon the following assumptions:

1. The tribal colleges are developing appropriate curriculum materials using separate legislative funding.
2. The Indian Education for All program will be delivered in all Montana public schools.
3. The delivery will be ongoing throughout the school year.
4. Primary Trainers & Mentor/Trainers will be provided release time from their schools.
5. The necessary definitions and state structure will be addressed by the Office of Public Instruction, the Board of Public Education, and Legislature as appropriate.

### **Overview of Model**

The model being proposed for cost analysis consists of ten primary trainers distributed by region and student enrollment. These primary trainers will be given instruction and training at the college and/or university level that will be defined cooperatively with tribal and state representatives. These ten primary trainers will train individuals designated as mentor/trainers for the purpose of working within school systems to initially work with educators in implementing the Indian Education for All curriculum and later, to sustain the curriculum, assist with new developments in the curriculum, provide ongoing professional development for educators, and to work with new teachers requiring assistance with the curriculum. The mentor/trainer educators will be trained and regionally available at approximately one mentor/trainer per 500 students. Based upon 2004-05 enrollments, this ratio will provide for about 294 mentor/trainers and ten primary trainers throughout the state.

The following costs are recommended for funding based upon the development of materials and the preparation of ten primary trainers.

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<sup>16</sup> [http://leg.state.mt.us/css/mtcode\\_const/const.asp](http://leg.state.mt.us/css/mtcode_const/const.asp)

## Major Components

<b>Development of curriculum</b>	Initial work begun by Tribal colleges through legislative funding	
<b>Completion of curriculum development</b>		<b>5,000,000</b>
<b>Initial Start up cost for Materials</b>	\$50 per student initial	<b>7,325,900</b>
<b>Delivery</b>		
<b>Materials</b>		
<b>Maintenance of Materials</b>	\$15 per student/grade-five year cycle	<b>\$2,197,770</b>
<b>Professional Development</b>		
<b>Conferences</b>		
MEA/AFT Convention		<b>\$10,000</b>
Two summer conferences		<b>\$48,000</b>
<b>Classroom Teachers</b>	Teacher training and mentoring -- substitute pay	<b>\$613,380</b>
<b>Training of mentors/trainers</b>		
<b>Stipends</b>	Trainer stipend	<b>\$25,000</b>
<b>Release Time</b>	Substitute pay -- Trainers and Mentor/Trainers	<b>\$328,320</b>
<b>Travel</b>	Travel -- Trainers and Mentor/Trainers	<b>\$547,200</b>
<b>Recommended costs for K-12 Indian Education for All</b>		<b>\$16,095,570</b>

The following assumptions were made relative to the above spreadsheet:

\* The \$5,000,000 for curriculum development is not founded on computation...the variables here are numerous, e.g., the development of new books and materials, the cost of the materials, texts, etc. The cost of \$5,000,000 represents less than \$35 per student.

Two conferences held during the summer, one east MT, one west MT. Each conference to be held for two days with four instructors.

MEA/AFT conference to have a day of sectionals offered to provide updated IEA training and offerings.  
Teacher professional development 1 day per teacher per year substitute pay. 10,223 teachers

One trainer of mentor/trainers for each of the five CSPD Regions and five more to be distributed by enrollment  
Trainers trained and certified at college level 10  
Each region would have one trained mentor/trainer per 500 students  
Number of trainer/mentors necessary for MT 2004-2005 Enrollment 146,518 **294**

The trainer stipend is to compensate trainers for time and expense incurred in acquiring the necessary education and training required for state licensure and renewal of licensure and related expenses.

Each trainer and mentor/trainer to have 18 days per year of release time provided by their districts. This time is to be used for working in schools with teaching faculty and other uses to advance full implementation of the Indian Education of All. Release days 18 Sub Pay \$60 **\$328,320**

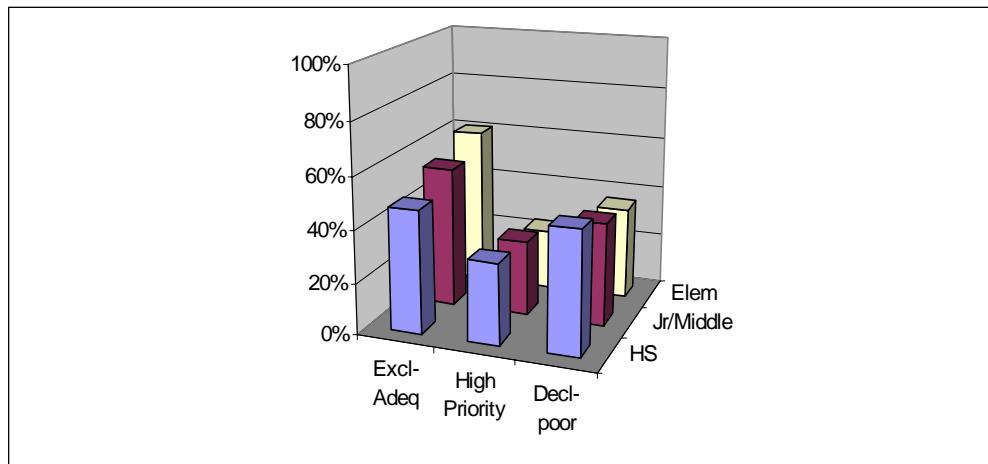
Travel pay is based upon 36 travel days per trainer and mentor/trainer at \$50 per trip.

Note: These costs for the Indian Education for All component are estimates based upon a program that is not yet fully functioning and are not intended to serve as funding levels beyond the first year of funding. It is recommended that after the completion of the first year of the implementation of the

Indian Education for All program, the actual spending be collected from each administrative unit and the first year figures be adjusted up or down so as to provide the actual funding necessary to adequately fund the program as implemented.

The District Needs Assessment contained several items designed to obtain information about delivering Indian Education for All.

#### **4.9 The Curriculum is Reviewed to Reflect the Requirements of Indian Education for All.**

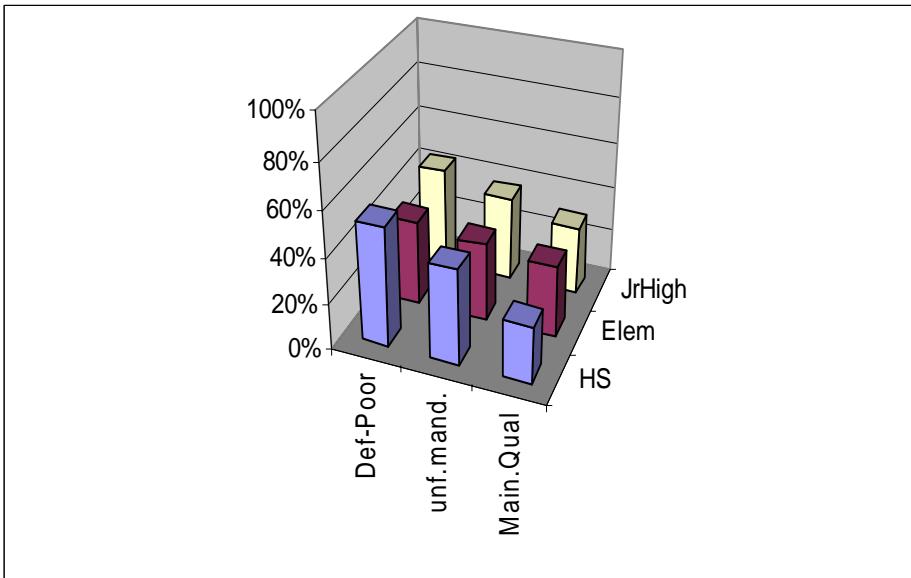


	Excl-Adeq	High Priority	Decl-poor
HS	47%	31%	47%
Jr/Middle	54%	29%	40%
Elem	61%	23%	36%

At the high school level, nearly half of all school districts reporting indicated that the curriculum reviews for IEA were poor and only one-third report that reviewing curriculum for IEA is a high priority in the district. Elementary schools report a higher percentage of excellent quality reviews than high schools or jr./middle schools.

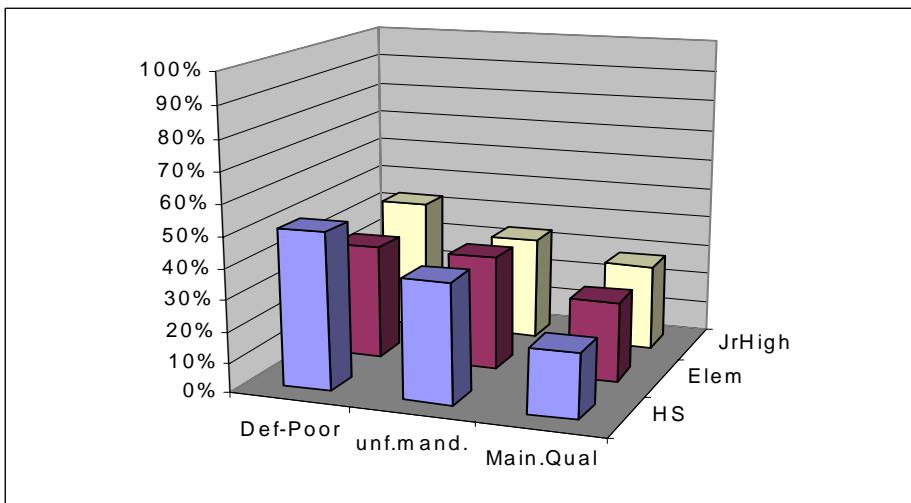
Responses ranged from one-third to one-half of the school districts reporting that they do an inadequate job of providing “essential understandings” about Montana American Indians to all students. One-fourth to one-third report doing an excellent job in this regard.

**5.4.1 Our Schools do an Adequate Job Providing “Essential Understandings”**  
**5.4.2 About Montana American Indians to All Students.**



	Def-Poor	unf.mand.	Main.Qual
HS	53%	42%	25%
Elem	37%	34%	31%
JrHigh	44%	37%	30%

**5.4.2 Our Schools Provide a “Culturally Responsive” Curriculum Relative to American Indians to All Students.**

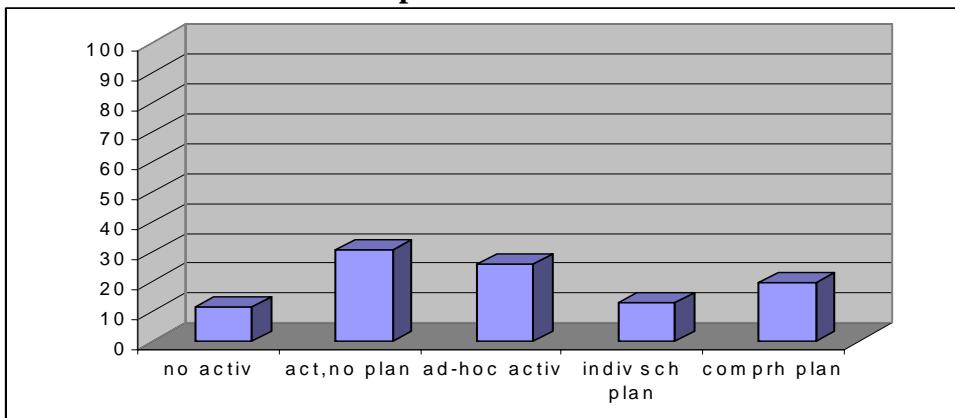


	Def-Poor	unf.mand.	Main.Qual
HS	51%	39%	21%
Elem	37%	37%	26%
JrHigh	43%	34%	28%

Again, only one-fourth of all schools report maintaining a culturally responsive curriculum relative to American Indians for all students. Similarly, one-half of all high schools and 43 percent of junior

high/middle schools report deficient or poor performance in this area. Elementary schools report doing a better job, but only 26 percent report that they are maintaining a high quality of curriculum.

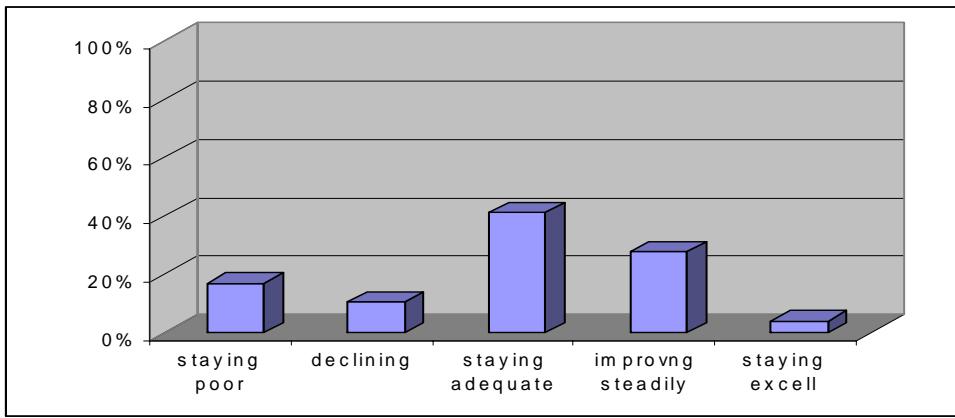
### District Professional Development in Indian Education



no activ	act,no plan	ad-hoc activ	indiv sch plan	comprh plan
11%	31%	26%	13%	20%

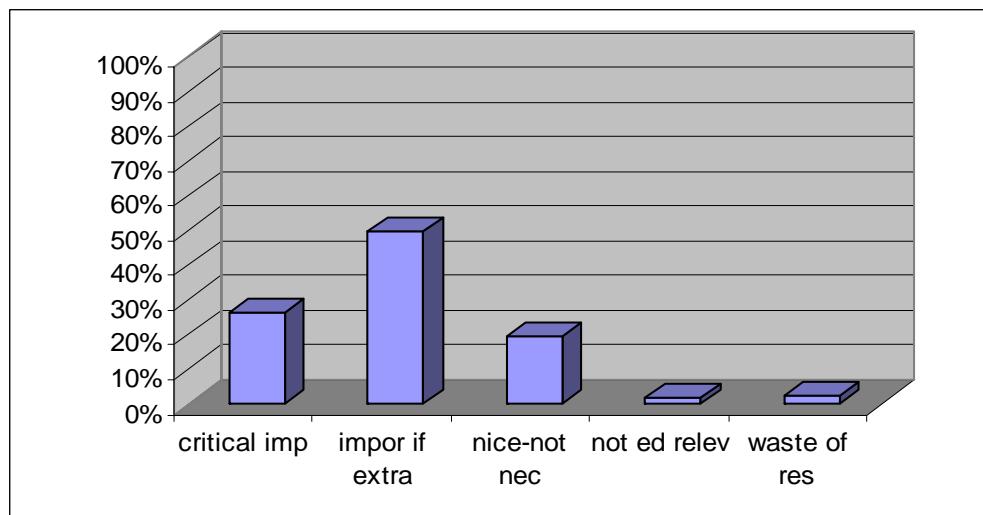
Only 20 percent of all school districts report having a comprehensive professional development plan in Indian Education for All, and 42 percent report that they have no activities and no plans for professional development in this area. Nearly 30 percent of all school districts report school district-wide professional development in Indian Education is declining in quality or that it has been poor and remains poor.

### 8.2 There is a District-Wide Plan for Professional Development to Implement Indian Education for All.



staying poor	declining	staying adequate	improvng steadily	staying excell
17%	10%	41%	28%	4%

#### **9.4.5 The School Uses Books and Materials that Reflect Authentic History and Contemporary Portrayals of American Indians.**



Nearly 75 percent of all school districts responding say that this is an important or critically important item, while few school districts suggest that it is not educationally relevant or even a waste of resources. Thus, the overwhelming number of districts rate the use of authentic materials as highly important.

## **Component Four**

### **Qualified and Effective Teachers and Administrators**

#### **Introduction**

The intent of this section is to ensure the state of Montana has reasonably provided for an educational system that attracts and retains teachers and administrators who can utilize the educational funding in a way that meets and/or exceeds the expectations of SB152 regarding the core components of a quality education. This component is addressed under the Young and Stoddard study as contracted by the state. Certain aspects of providing qualified and effective teachers and administrators are recommended either in conjunction with or in addition to the Young and Stoddard study. The overall state education finance distribution formula must provide for the following concepts as found within the following:

1. Provide funding in a way that ensures teachers will have moderate classroom enrollments in order to allow teachers the opportunity to successfully educate all students.
2. Provide support personnel at a level that allows teachers sufficient time to teach.
3. Provide an annual adjustment to school funding that reflects additional costs inherent in the State's economy.
4. Provide an additional increase in the general fund annually to provide administrators with the ability to meet contractually obligated salary schedule increases as well as provide for some assistance with health insurance costs that historically have well exceeded the cost of living indices.

## Component Five

### Facilities and Distance Learning

#### Introduction

#### Facilities

The present method of funding school district facilities relies primarily upon the school district taxpayers to fund construction projects too large to be funded out of the general fund. Long-term debt, up to twenty years, is financed by voted bond levies and or building reserve levies under 20-9-502. The maximum amount for which an elementary district or a high school district may become indebted by the issuance of general obligation bonds, including all indebtedness represented by outstanding general obligation bonds of previous issues and registered warrants, is 45 percent of the taxable value of the property subject to taxation and the maximum amount for which a K-12 school district may become indebted by the issuance of general obligation bonds, including all indebtedness represented by outstanding general obligation bonds of previous issues and registered warrants, is up to 90 percent of the taxable value of the property subject to taxation, as ascertained by the last assessment for state, county, and school taxes previous to the incurring of the indebtedness. (20-9-406, MCA)

The obligation of the state to meet the requirements of the District Court's decision with respect to facilities and the Legislature's subsequent definition of quality education set forth in SB152 will require a substantial investment and effort. The first recommendation is for the Legislature to develop a state financial distribution formula that definitively addresses a logical process by which the K-12 public school facilities in Montana are reviewed, assessed, and appropriately funded to meet the criteria of the state's obligation to provide a quality education.

At the high school level, the science, math, English and music facilities are among the highest priority programs with the greatest decline in conditions.

#### High School Facilities – Needs

(NOTE: Percentages are from different scales – do not sum to 100%)

Rank	Subject Area	Currently Deficient	High Priority	Declining or Poor	Priority (+) Decline
1	HS Science	46.4	45.7	50.7	96.4
2	HS Math	41.6	47.8	45.2	93.0
3	HS English	39.2	47.8	42.7	90.5
4	HS Music	39.0	48.9	38.5	87.4
5	HS boys athletics	24.1	52.7	28.5	81.2
6	HS Soc. Studies	37.2	40.7	40.2	80.9
7	HS girls athletics	23.3	52.3	27.5	79.8
8	HS HPE	32.6	41.2	37.8	79.0
9	HS Art	48.1	33.6	44.5	78.1
10	HS inter mural	26.1	39.2	33.6	72.8
11	HS Spec Ed	27.0	36.4	34.4	70.8
12	HS Lib/Media	22.1	41.7	28.9	70.6
13	HS Guidance	26.3	38.2	31.3	69.5
14	HS Speech	27.8	28.6	38.9	67.5
15	HS drama	25.4	30.7	35.1	65.8

At the elementary level, the pattern is similar, with the greatest declines in priority areas being in science, math, music, speech and English/Language Arts. It is presumed that these facilities are not specialized as they might be at the high school level, and, therefore, represent declines in the conditions of regular classrooms at the elementary level.

### **Elementary Facilities - Needs**

Rank	Subject Area	Currently Deficient	High Priority	Declining or Poor	Priority (+) Decline
1	Elem Science	40.9	41.2	43.2	84.4
2	Elem Math	32.6	42.9	36.5	79.4
3	Elem Music	38.5	34.1	43.1	77.2
4	Elem Speech	54.1	17.8	59.3	77.1
5	Elem English	32.1	42.1	34.7	76.8
6	Elem boys athletics	30.5	36.0	36.8	72.8
7	Elem HPE	38.2	32.0	40.0	72.0
8	Elem girls athletics	29.8	35.8	36.1	71.9
9	Elem drama	44.6	22.7	48.8	71.5
10	Elem Lib/Media	32.1	34.7	36.5	71.2
11	Elem Art	44.3	25.9	44.1	70.0
12	Elem Soc Stdy	32.3	36.7	32.6	69.3
13	Elem Spec Ed	22.1	38.5	30.4	68.9
14	Elem Inter Mural	32.0	31.9	36.5	68.4
15	Elem Guidance	36.0	29.1	38.3	67.4

The first major step of the process should be to establish the building standards that will serve as the benchmark for assessing the relative safety, integrity, and sufficiency of the present facilities for all school districts in Montana. A statewide Facility Condition Inventory (FCI) should be commissioned and funded in order to gather the appropriate data. Such an inventory, if conducted under a single firm, would provide data for all school districts in Montana that are consistent and obtained on the same basis of appraisal. These data will serve to establish the degree of urgency and for what priorities. For example, perhaps the assessment will determine a need to focus on bringing state schools up to ADA access standards across the state.

At some point, a public policy decision will need to be made that addresses the source of funding, and hence, the control of decision-making regarding facilities. That is, under the present structure, a great deal of local control is preserved and the construction and maintenance of facilities, within the limits of bonded indebtedness, is determined by the vote of the local school district voters.

To change the paradigm and move to a state funded and therefore, state controlled facilities management will require a substantial change in how the public views their role in managing public elementary and secondary education. Further, the state will assume the responsibility of acting upon the findings of the FCI and be required to ensure annual funding for a continuous and ongoing new construction and maintenance of educational facilities. In this case, the annual cost will be determined by the ensuing construction needs and the state and local school districts will meet these needs in a systemic manner in order to comply with its definition of quality education.

Perhaps a model somewhere between the two might also be considered. That is, local control is preserved much in the present structure, but the state targets and funds, based on the local school district's ability, specific needs over an appropriate period of time. For example, after an IFC study, the state could prioritize the needs and then select the highest priority and fund it appropriately. For example, the state might determine, based upon the data from the FCI study, that playground safety

measures are seriously lacking to the point that addressing this issue is the number one need for Montana public schools. Just as the state required schools to remove or address underground fuel storage tanks, the state could set forth a plan to comply with the courts' decisions by targeting and funding over time, the components necessary to ensure that the facilities are being monitored and subsidized to ensure that the children of the State of Montana have access to adequate and safe facilities.

Therefore, it is the recommendation of this research team that the state devise a fiscal facility distribution formula as part of the overall state aid plan that addresses the needs of the public school children in Montana, as related to facilities, in a manner consistent with state and federal regulations as well as the Sherlock decision. Further, it is recommend that the Legislature establish a set of facility standards and fund an FCI study to gather these data from each school district so as to determine an assessment of the condition of the state schools and direct ongoing direction and support to school districts.

### **Distance Learning**

Distance learning is becoming a means by which many problems associated with the delivery of education can be mitigated. The FCI study should include an assessment of each school district's technological status to include the costs associated with bringing each school district's technology capabilities up to the present and future needs relative to both in district curriculum as well as connectivity issues with the rest of the world.

The study should also include the cost of meeting all special needs access codes, safety considerations, and a computation of reasonable maintenance and operation costs and any factors that may economically reduce those costs.

Based upon a preliminary report provided by analysts from the Governor's office, it is anticipated that the first step of this process will cost approximately \$2,000,000.

## **Component Six**

### **Transportation**

#### **Introduction**

Presently, pupil transportation is funded on a permissive basis, that is, the transportation needs of an administrative unit are computed, approved by the school board and then submitted to the County Transportation Committee for approval. Upon obtaining the necessary approvals, the school district then receives the requested amount based upon state, county, and local funding. For the 2003-04 school year, the most current data available, the state and county funding each provided approximately 25 percent of the total funding with the local school district directly funding the remaining 50 percent. The total of all K-12 public school transportation funding for the 2003-04 school year was approximately \$48,800,000, having traveled over 18 million miles, and transporting over 55,000 riders.

At issue in Component Six is the regulation that does not allow administrative units to be compensated for students who live closer than three miles from the school. With an increase in traffic around most schools, as well as other safety considerations, the Legislature sought to investigate the costs associated

with eliminating the three-mile restriction and the compensation necessary for schools to pick up all students who choose to ride a bus to school.

This component is difficult to cost out based upon the uncertainty of how many and which students would ride and the additional miles of transportation that would be required to meet this change in rules. Further, many schools, particularly smaller schools, are already doing this without additional expense as their ridership is small enough to accommodate students who live within three miles without adding more school buses.

In addition, special education students are not currently under the three-mile limitation and so removing the three-mile limitation will not increase costs associated with transporting special education students. It may also be possible to add regular education students to existing regular and special education transportation services without an increase in cost. Finally, while not a direct additional cost to the administrative units, removing the three-mile restriction would increase the cost of providing private transportation agreements by adding six miles per day of compensation presently not paid as part of a private transportation agreement.

The methodology for computing the cost of this component is provided in detail in the following spreadsheet; however, it should be clearly noted that this recommended amount should be subjected to revision based upon actual additional expenses documented by each administrative unit when the transportation budget has been computed for the ensuing year following any change in the three-mile regulation. Costs of routes and transportation budgets can vary substantially from year to year and the only way to equitably calculate the costs is for each administrative unit to determine its needs based upon an annual determination of ridership and route lengths.

*Spreadsheet of Anticipated Costs for the Elimination of the Three-Mile Restriction*

**Eliminate the three-mile restriction**

Private contracts add six miles/day \$ 330,264

**To compute additional riders**

**Elementary**

Number of potential new K-8 eligible riders	58,520
Less number of ineligible K-8 riders riding now	48,787

**Percent of K-8 newly eligible who would ride** 85%

Number of new K-8 riders	41,469
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**High School**

Number of potential new HS eligible riders	34373
Less number of ineligible HS riders riding now	31129

**Percent of HS newly eligible who would ride** 50%

Number of new HS riders	15565
Total number of new riders	57,033

**Percent of new riders added with present buses** 25%

Remaining riders to be routed with new routes	42,775
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**Number of riders per bus** 45

Number of new routes	951
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**Number of miles per route per day** 15

Cost of new routes based on a per mile basis	\$ 6,893,191
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**Total Individual plus District costs 7,223,455**

**Assumptions are in bolded italics.**

This estimate anticipates a cost that may likely be in somewhat in excess of the actual amount. This figure does not impact the general fund of school districts under the present funding model and therefore, the actual cost will be determined after the first year of operation.

## Component Seven

### Assessment

#### Introduction

There are several issues regarding assessment. The most obvious cost of assessment is the basic cost of the test materials and the scoring of the tests. This cost is reportedly around \$10 per student per test. Three grades are required to be tested, or approximately 32,000 students for about \$320,000 per test administered. For the purposes of meeting the assessment requirements for SB152, it will be assumed that school districts provides standardized assessment for all students rather than the minimum required three grades. The argument is often made, successfully, that all students should be assessed annually so that growth of individual students may be tracked rather than what happens in the same grade each year.

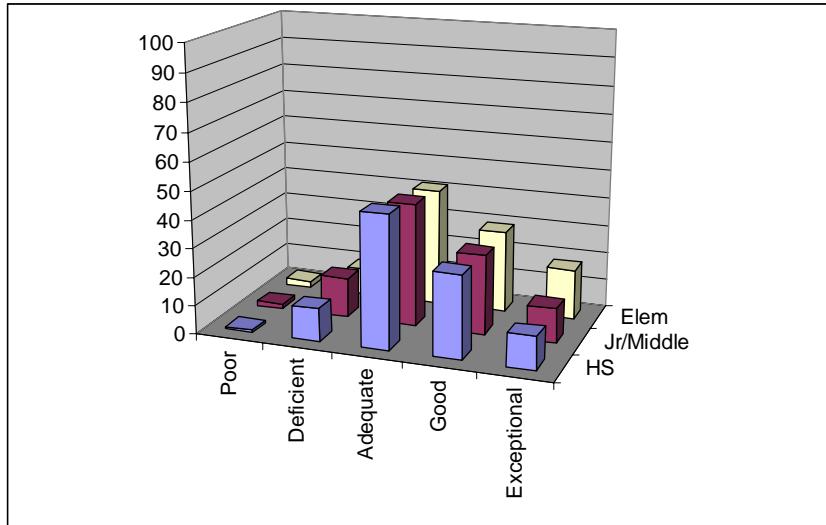
The accreditation standards require utilization of test scores for the purposes curriculum development so it would seem that not only the expense of testing itself should be funded, but indirect costs required to sufficiently utilize the test scores in a way that improves the education of the school system should be included in funding as well. Therefore, other costs of assessment are associated with how a school district utilizes the test results.

### ***State Assessment Requirements***

**Table: State Assessment measures by school level**

	High School	Jr/Middle	Elementary
<b>Poor</b>	0.8	1.8	2.2
<b>Deficient</b>	11.5	14.1	9.5
<b>Adequate</b>	46.9	43.5	41.6
<b>Good</b>	29.2	28.2	29
<b>Exceptional</b>	11.5	12.4	17.7

### **State Assessment Data is Used in the Program Assessment Process**

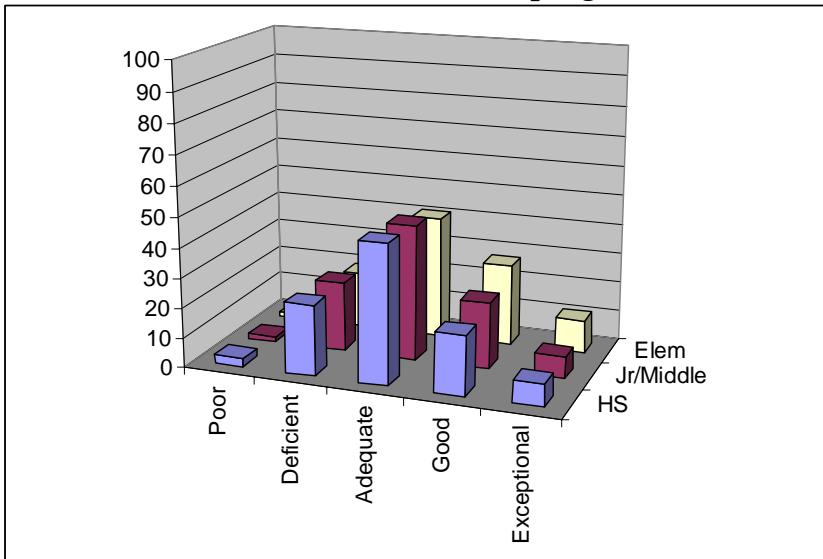


Nearly 85 percent of all districts report that they use State assessment measures at least adequately.

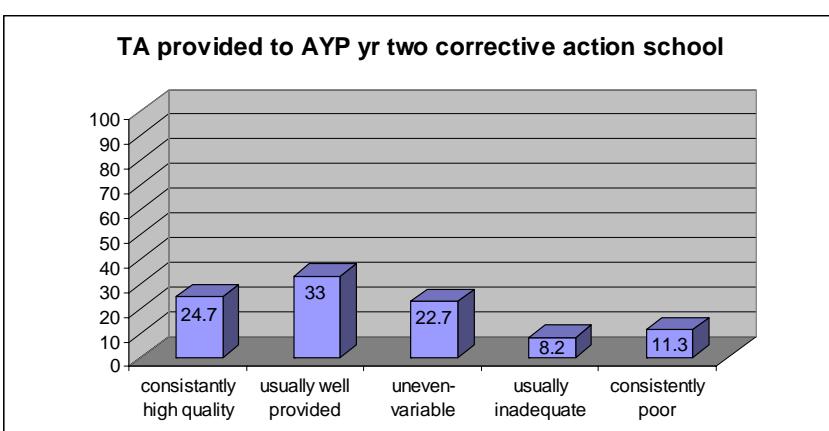
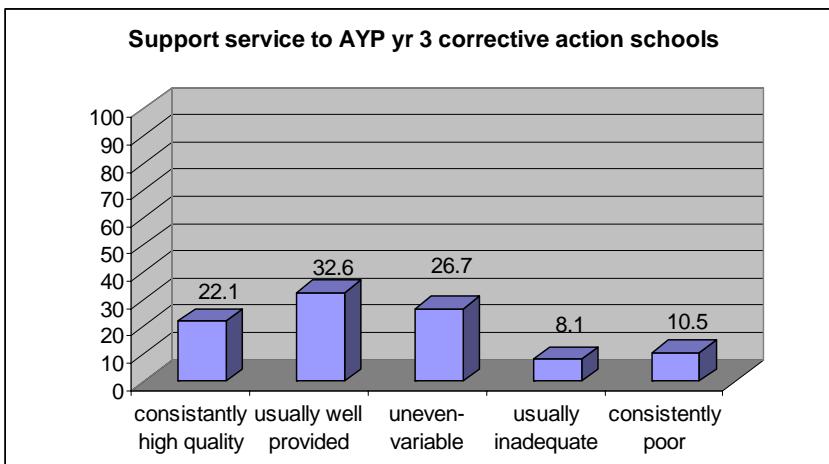
	HS	Jr/Middle	Elem
<b>Poor</b>	2.9	1.7	1.6
<b>Deficient</b>	23.5	23.5	19.1
<b>Adequate</b>	46.3	45.3	41.1
<b>Good</b>	19.9	22.3	27.2
<b>Exceptional</b>	7.4	7.3	11

More than 70 percent of all school districts report using State assessment data to evaluate their educational programs.

### ***State assessment data is used in the program assessment process***



Forty-two percent of all school districts report that technical assistance for year two AYP corrective action schools is uneven/variable to consistently poor and, thus, a need.



Forty-five percent of the school districts report that support service for AYP year three corrective action schools is uneven-to-consistently poor.

If a district brings in consultants in order to interpret the tests and the applicability to educational improvement as per accreditation standards, costs can increase substantially. It should be noted that a school district superintendent having an enrollment of approximately 550 students reported, for the purpose of this study, that a cost of \$12,000 was incurred in order to pay for an assessment consultant and teachers to spend a day on proper use of the test scores of the district students.

Tracking graduates and other students not in attendance is also required, which in some sense, falls under the assessment component. The cost of this can vary depending upon the personnel available in a school district to collect and compile these data. Clearly, some school districts may have to hire independent contractors to provide these tracking data.

It is well known that the federal program known as No Child Left Behind (NCLB) has resulted in substantial requirements, many of which represent direct costs to school districts. The federal government considers the funding of part of the imposed requirements to be provided at the federal level while the remainder to be provided directly by the states. A spreadsheet is provided in the Appendix to document some of the categories of expenses associated with NCLB. While school district administrators did not report a substantial cost resulting from NCLB at this time, they did express a strong concern for the ongoing pattern of imposing unfounded mandates upon local school districts.

The recommended level of additional funding to support assessment as per the requirements of SB152 is \$3,891,320 as supported by the following spreadsheet. This would suggest a level of funding of \$ 27 per student. Small school districts would need to explore whether they could combine funding and have a common in-service on assessment.

This funding does not provide any financial support for other NCLB requirements; consequently, it is recommended that the state make timely adjustments to K-12 funding, as federal mandates require additional funding.

*Spreadsheet of Anticipated Costs for Assessment*

**Assessment Costs**

**Tests and Scoring**

<b>Cost per test</b>	<b>10</b>
<b># students</b>	<b>146,000</b>
<b># test/year</b>	<b>2</b>

**Subtotal Tests**      **2,920,000**

**Inservice work with test results**

<b>Number of Teachers</b>	<b>10,200</b>
<b>1/3 of teachers/yr</b>	<b>3397</b>
<b>Cost/day</b>	<b>200</b>
<b>Presenter Costs</b>	
<b>\$1 per student</b>	<b>146,000</b>

**Subtotal Inservice**      **825,320**

**Other Expenses**

<b>Tracking \$1/student</b>	<b>146,000</b>
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**Total Assessment**      **3,891,320**

<b>Per Student</b>	<b>\$</b>	<b>27</b>
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**Component Eight**

**Preservation of Local Control**

**Introduction**

The final component of SB152 deals with the cost of preserving local control of Montana schools. Montana school boards are empowered by the Montana Constitution, thus Montana school boards enjoy a legal status not found in most boards across the state.

**Local Control at the State Level**

Local control, interpreted at the state level vs. federal control, would have an expected cost that would be measured by the loss of federal dollars. The federal Title programs alone represent the following funding levels for 2002-03, the latest figures available.

**Federal  
Programs  
2002-2003**

<b>ESEA</b>	<b>Title I</b>	<b>39,444,227</b>
<b>ESEA</b>	<b>Title II</b>	<b>16,713,597</b>
<b>ESEA</b>	<b>Title III</b>	<b>500,000</b>
<b>ESEA</b>	<b>Title IV</b>	<b>3,830,869</b>
<b>ESEA</b>	<b>Title V</b>	<b>1,911,525</b>
<b>ESEA</b>	<b>Title VI</b>	<b>4,171,612</b>
<b>ESEA</b>	<b>Title VIII</b>	<b>38,000,000</b>
<b>ESEA</b>	<b>Title X</b>	<b>164,170</b>
<b>Total</b>		<b>104,736,000</b>

Note: A comprehensive description of federal funds may be obtained at  
<http://www.opi.state.mt.us/PDF/FEDPrgms/GrantsHandbook/><http://www.opi.state.mt.us/PDF/FEDPrgms/GrantsHandbook/Complete%20Handbook.pdf>

### **Local Control at the School District Level**

Local control, within the state constitution, is defined by the state legislature. The state legislature will adopt a given state aid distribution formula which will outline and dictate the amount of state aid as well as the amount of local discretion. For example, if the state assumes financial responsibility for funding each school district's facilities, the state will likely determine the statewide priority of what and when new facilities are constructed or even if they will be constructed, and the local district will have little say about when or if new facilities are provided.

State control versus local control is sometimes debated as if state funding comes at a cost more protected than local control. The funding of Montana K-12 public education is a statewide obligation and that obligation does not have to be perceived as a threat to local control. The same people who pay for the state funding are the same people who pay for local funding. The essential difference between state and local funding is state funding provides for equalized funding while local funding becomes a disequalized source of funding.

Thus, to overcome this inherent inequity is the fact that the new education finance distribution formula must then distribute funds based on the needs of school children as well as the wealth, or lack of wealth, within the local school district. Thus, within clear parameters, the poorest school districts are to have access to funds from state and local sources approximately equal to the wealthiest school districts in the state. Thus, the state will, within parameters, dictate the expenditure levels based on needs of students and the relative wealth of each school district.

### **Needs Assessment: Local Control**

Respondents were asked whether they thought that the local school district should be able to augment the level of state support or whether they thought that local augmentation should be capped. This open-ended question produced considerable debate ranging from no-caps (total local control) to regulated augmentation (total state control). Included here are illustrative comments from both sides of the issue.

### **10.6 Local augmentation of the budget should be capped?**

- Yes, definitely. Otherwise, the opportunity statewide would not be equal. 20% local - 80% state.
- A cap is necessary to maintain equity of opportunity and comply with the *Loble* decision in the under-funded lawsuit. The state is flirting with violating that decision at the current time.
- I am not certain. If we cap a local budget do we eliminate local control and if we remove caps do we eliminate equalization?

(selected comments from Needs Assessment)

### **10.6 Local augmentation of the budget should NOT be capped?**

- Absolutely not! If the State is providing the constitutionally mandated education, then local districts should be able to provide what they feel is necessary and desirable for their local constituents.
- Anytime you have a cap, kids get hurt. Money is not everything. It can only help you get the staff to join a district and stay, which in turn builds programs. This is a hard question to answer.
- Absolutely not. Before "equalization" when we needed the taxpayers, they stepped up to support the district. Our people believe in their small rural district, keeping their school keeps their community centered and they avidly believe in our rural way of life.

(Selected from 10.6 Needs Assessment responses)

## **Summary**

### **Accreditation Standards**

The number of certified personnel specifically addressed in the accreditation standards appears to be employed at a statewide level that would suggest under the proper distribution of funding, all school districts would meet the appropriate accreditation standards.

Lower class sizes are critical to the recommendations throughout virtually all of the eight major components of SB152. This would be accomplished through a buffer applied in the funding formula and it would not be necessary to change the maximums as stated in the accreditation standards.

### **Special Education, Special Needs**

This component represents the most significant deficit in the state's present level of providing a quality education as defined by SB152. The most serious of these deficits is the achievement gap in Native American students and other at risk students. The achievement gap is very serious. The State has to assume a rigorous oversight of this issue and provide the commitment necessary to successfully realize a sound education for all of Montana's students. The state also needs to ensure that a solid gifted and talented program is in place and function for all of the appropriate students in Montana.

The state must recognize the importance of litigation and new legislation that creates additional responsibilities for school districts. When these responsibilities are added to the present obligations, there must exist an appropriate level of funding to allow school districts to realize these responsibilities via a state aid distribution formula. Again, inherent in this discussion is the larger question of which schools are small, and which schools are small and isolated.

Of the eight components, the at risk population is the most pronounced deficiency in the State's obligation to implement and fund SB152. In particular, the elimination of the Native American achievement gap requires a strong, broad, and long-term commitment beginning with the Legislature.

### **Indian Education for All**

Indian Education for All has been implemented in some school districts, but in general, the state has not offered sufficient support to ensure that this Constitutionally mandated educational offering has been properly implemented statewide. Clearly, the Legislature needs to offer whatever level of support is necessary to meet this obligation.

### **Recruitment and Retention of Qualified Educators**

Given the number of teachers and other educators presently employed are representative of what would be required to meet the state accreditation standards, the next consideration is to ensure the quality of teachers and other educators filling those positions is sufficient to provide the quality of education delineated in SB152. That is, what is now required is to provide the conditions necessary to attract, hire, and retain high quality educators.

There are two major considerations related to providing this component. The first consideration is to provide a school climate that ensures favorable circumstances necessary for a teacher to achieve professional success, that is, to provide a quality education for all students. These factors include things such as class size, a high quality of administrative support, and guidance, and so forth. The second consideration is to provide compensation and benefits commensurate with the investment these educators have made to be highly qualified and to be competitive with other states and professions that successfully compete financially for the educators needed to serve Montana schools. Of particular importance is for school districts to be able to offer quality health insurance to meet the health care needs and salary schedules that provide financial recognition for additional education and experience as well as provide appropriate funding that does not require educators to offset an annual loss in purchasing power with increased income based upon movement within their salary schedules.

### **Facilities and Distance Learning**

It is strongly recommended that the Legislature begin meeting this component of SB152 by adopting the necessary standards appropriate to school facilities and funding a systematic appraisal of the Montana public school facilities. This appraisal should be broad enough to include what is needed and the cost thereof to bring all school districts up to the present standards for educational technology, including connectivity costs.

### **Transportation**

Eliminating the three-miles restriction would be a benefit for many Montana children. By doing so, the Legislature would provide all children with a safe and efficient means to attend school.

## **Assessment**

Multiple assessments are required of all school districts for a number of reasons, including program evaluation and curriculum development. Specific funding should be provided that pays for the assessments as well as the professional development that is required to provide guidance to district educators as to valid utilization of assessment results.

### **A Spreadsheet Summary of Additional Costs Recommended for the 2004-05 School Year to Meet the Requirements of SB152**

<b>Accreditation Standards</b>	None
<b>Special Education/Needs</b>	<b>None</b>
<b>At Risk</b>	
<b>Achievement Gap</b>	<b>5,100,000 Initial funding to determine 2007 funding</b>
<b>G&amp;T</b>	<b>50,000 Initial funding to determine 2007 funding</b>
<b>Indian Education for All</b>	<b>16,095,570 Initial + some annual</b>
<b>Recruit/Hire/Retain Qualified Teachers</b>	<b>Indeterminate</b> <b>Young/Stoddard Study</b>
<b>Facilities</b>	<b>2,000,000 Initial funding to determine 2007 funding</b>
<b>Transportation</b>	<b>7,223,455 Annual</b>
<b>Assessment</b>	<b>3,891,320 Annual</b>
 <b>Young/Stoddart Study</b>	 <b>Indeterminate</b>
<b>Total</b>	<b>34,360,345</b>

## **Professional Judgment Analysis**

The Professional Judgment approach was utilized for a view of the costs of providing a quality education and as a subset; providing a quality education to Indian American children. Separate professional judgment panels were convened and each determined, within parameters, the costs of offering a quality elementary and secondary education in the state of Montana. Typically, the professional judgment approach results in the highest cost estimates of the four models that are utilized.

The process of bringing together expert educators to list the required inputs for an adequate or quality education is known as the professional judgment methodology. Such studies have been conducted in at

least thirteen states.<sup>17</sup> The greatest strength of the approach is that expert educators who are intimately familiar with the needs of schools list the components of an adequate or quality education. However, critics of the approach also see expert educators determining adequacy as the major limitation to the method. Specifically, critics argue that educators who will be receiving services may be biased and overstate the requirements of a quality education.

It must be noted that a previous professional judgment study was completed by Augenblick & Myers (A&M) and one of the goals of this current study was to build on the work that had already been conducted.

In order to conduct a useful professional judgment analysis that would shed light on the complex issues associated with identifying the required funding for an adequate or quality education, input was obtained from school districts across the state of Montana through a survey that attempted to identify appropriate student to teacher and staff ratios, along with per pupil costs for other education components such as instructional supplies and student activities. One hundred and twenty-two school districts were chosen to receive the survey, and particular attention was taken to ensure a representative sample of districts based on size, geographic location, student performance, and percent of special student populations.

Seventy-four districts (61 percent of districts) responded to the survey, and the results were provided to the education “expert panel” – consisting of fifteen members appointed by members of the quality schools interim committee – who made the final determinations as to the required inputs necessary to provide a quality education in the state of Montana.

Under the professional judgment methodology, numerous prototype schools were created. Specifically, prototype elementary, middle, and high schools of different sizes were created based on statewide data. The average percent of special populations was also provided to the expert panel, who then listed the inputs they believed were required for a quality education in the state.

It should be noted that a small minority of the expert panel found the results to be excessive. This small minority stated that significant increases in K-12 funding were required to meet the state’s constitutional responsibility of providing a quality education, and they also believed that increases over the A&M study were warranted given SB152 and NCLB.

The following tables provide information regarding school types and sizes along with the required personnel inputs identified by the professional judgment expert panel.

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<sup>17</sup> Professional judgment studies have been undertaken in Oregon, South Carolina, Maryland, Kansas, Nebraska, Indiana, Colorado, Missouri, Kentucky, North Dakota, Washington, Montana, and New York.

A *Costing Out Primer*: September 12<sup>th</sup> 2005. ACCESS, Campaign for Fiscal Equity. [Cited 12 September, 2005] Available from World Wide Web: ([http://www.schoolfunding.info/resource\\_center/costingoutprimer.php3](http://www.schoolfunding.info/resource_center/costingoutprimer.php3))

## Elementary Schools

	Very Small <50 Students	Small 50-149 Students	Medium 150-300 Students	Large 300+ Students
Total Number of Schools	159	86	89	80
Average Total Enrollment	20	96	238	404
Average F&R Lunch Students	6	35	105	147
Average American Indian Students	1	8	42	37
Average Special Education Students	2.5	11	30	51
Regular Education Teachers	2.5	9	20	32
Regular Education Aides	.5	2	3	5
Special Education Teachers	.19	1	2	4
Special Education Aides	.19	2	5	6
Guidance Counselors	.01	.5	1	2
Nurse	0	.25	.5	.5
Psychologist	.04	.1	.33	.75
Speech Pathologist	.08	.25	.5	.5
Speech Pathologist Aide	0	0	0	2
Librarian	.09	.5	1	1
Technology Specialist	.09	.5	1	1
Substitutes	.26	1	2.2	3.6
Principal	.09	.5	1	1
Asst. Principal	0	0	0	1
Clerical	.18	1	1	2

## Middle Schools

	Very Small <50 Students	Small 50-99 Students	Medium 100-249 Students	Large 250+ Students
Total Number of Schools	107	35	26	34
Average Total Enrollment	23	70	154	503
Average F&R Lunch Students	10	30	54	176
Average American Indian Students	2	13	18	51
Average Special Education Students	3	9	19	63
Regular Education Teachers	2.16	6	13	40
Regular Education Aides	.36	2	3	6
Special Education Teachers	.19	1	2	5
Special Education Aides	.38	1	2	6
Guidance Counselors	.14	.5	1	3
Nurse	0	.25	.25	.5
Psychologist	.08	.1	.33	.75
Speech Pathologist	.08	.1	.25	.25
Speech Pathologist Aide	0	0	0	1
Librarian	.18	.5	.5	1.5
Librarian Aide	0	0	1	0
Technology Specialist	.14	.25	.5	1
Substitutes	.24	.9	1.5	4.5
Principal	.18	.5	1	1
Asst. Principal	0	0	0	1
Clerical	.36	1	1	3

## High Schools

	Very Small <50 Students	Small 50-149 Students	Medium 150-399 Students	Large 400+ Students
Total Number of Schools	42	53	29	30
Average Total Enrollment	34	93	240	998
Average F&R Lunch Students	14	34	68	195
Average American Indian Students	3	14	43	67
Average Special Education Students	4	12	30	125
Regular Education Teachers	6.5	8	20	71
Regular Education Aides	0	1.5	3	12
Special Education Teachers	.25	1	3	8
Special Education Aides	0	2	3	12
Guidance Counselors	.25	.5	1.5	4
Nurse	0	.1	.25	.5
Psychologist	.1	.1	.33	.75
Speech Pathologist	.05	.1	.25	.25
Librarian	.25	.5	1	3
Technology Specialist	.25	.5	1	2
Substitutes	.26	.9	2.3	7.9
Principal	.4	.5	1	1
Asst. Principal	0	0	.5	3
Clerical	.5	1	2	4

In order to determine the costs associated with different personnel for the prototype schools, the average salary information utilized in the A&M report was adjusted using the education growth factor to arrive at the following average salaries.

## Personnel Salaries Used in Professional Judgment Analysis

Teacher	\$42,915
Tech specialist	\$38,216
Counselor	\$46,319
Nurse	\$37,487
Psychologist	\$46,396
Speech pathologist	\$48,090
Teacher aide*	\$20,738
Clerical	\$25,045
Principal	\$66,157
Assistant principal	\$65,178
Librarian	\$41,163

\*The teacher aide salary was also used for speech pathologist aides, and librarian aides identified by the expert panel.

It should be noted that the average teacher salary is based on increasing teacher contracts by eight days as a means to provide the additional professional development identified by the expert panel. In addition, it must also be noted that R.C. Wood & Associates was operating under the assumption that results of the separate teacher/personnel salary study that was undertaken during the same time as this study would be used to make modifications to results.

Along with providing the required personnel inputs, the expert panel also provided the necessary funding for other components of a quality education by school type and size as can be seen in the following tables.

### Elementary Schools

	Very Small <50 Students	Small 50-149 Students	Medium 150-300 Students	Large 300+ Students
Instructional Materials & Supplies	\$250	\$250	\$250	\$250
Equipment	\$100	\$100	\$100	\$100
Technology	\$500	\$300	\$300	\$300
Assessments	50	\$50	\$50	\$50
Student Activities	\$75	\$50	\$50	\$50
Security	\$25	\$25	\$25	\$25
<b>Totals</b>	<b>\$1,000</b>	<b>\$775</b>	<b>\$775</b>	<b>\$775</b>

### **Middle Schools**

	Very Small <50 Students	Small 50-99 Students	Medium 100-249 Students	Large 250+ Students
Instructional Materials & Supplies	\$250	\$350	\$350	\$350
Equipment	\$100	\$150	\$150	\$150
Technology	\$500	\$400	\$400	\$400
Assessments	\$50	\$50	\$50	\$50
Student Activities	\$75	\$275	\$275	\$275
Security	\$25	\$25	\$25	\$100
<b>Totals</b>	<b>\$1,000</b>	<b>\$1,250</b>	<b>\$1,250</b>	<b>\$1,325</b>

### **High Schools**

	Very Small <50 Students	Small 50-149 Students	Medium 150-399 Students	Large 400+ Students
Instructional Materials & Supplies	\$400	\$400	\$400	\$350
Equipment	\$300	\$300	\$300	\$200
Technology	\$500	\$500	\$400	\$400
Assessments	\$80	\$80	\$80	\$80
Student Activities	\$700	\$700	\$700	\$500
Security	\$50	\$50	\$50	\$100
<b>Totals</b>	<b>\$2,030</b>	<b>\$2,030</b>	<b>\$1,930</b>	<b>\$1,630</b>

Along with identifying the inputs and costs at the school level, the expert panel was also required to identify district cost requirements. The expert panel stated that the district costs identified in the A&M study should be used with cost adjustments made since the study was conducted in 2002. Instead of using inflation to adjust for costs, an analysis of education spending growth in Montana over the past thirteen years was undertaken. It was estimated that education-funding growth has been approximately 4.5 percent over the past thirteen years, and therefore the results of the A&M study were compounded at 4.5 percent for four years to arrive at the estimated costs for the 2005-06 school year. The following table provides the results of district costs and special education student costs for FY06 using the education growth factor.

### **District Costs**

	Very Small	Small	Medium	Large
District Adm. Costs	\$1,733	\$1,514	\$1,275	\$1,115
District Sp. Ed. Adm. Costs	\$1,121	\$1,656	\$1,657	\$1,091
Sp. Ed. Student Costs	\$10,291	\$10,466	\$8,605	\$10,488

With school personnel costs, other educational component costs, district costs, and special education student costs identified, total funding levels were then identified. Specifically, the total number of students in each type of school in the state of Montana was multiplied by the prototype school results.

### **Elementary Schools**

Cost Factors	Very Small <50 Students	Small 50-149 Students	Medium 150-300 Students	Large 300+ Students
School Cost Per Pupil	\$8,863	\$8,258	\$6,728	\$6,462
District Adm. Cost Per Pupil	\$1,733	\$1,514	\$1,275	\$1,115
Total Per Pupil Cost	\$10,596	\$9,773	\$8,002	\$7,577
Total Pupils	3,196	7,816	20,618	32,561
Total Regular Education Cost	\$33,864,836	\$76,385,404	\$164,993,498	\$246,703,662
District Adm. Cost Per Sp. Ed. Student	\$1,121	\$1,656	\$1,657	\$1,091
Direct Cost Per Sp. Ed. Student	\$10,291	\$10,466	\$8,605	\$10,488
Total Additional Cost Per Sp. Ed. Student	\$11,412	\$12,122	\$10,262	\$11,579
Total Sp. Ed. Pupils	257	779	2,311	3,446
Total Sp. Ed. Cost.	\$2,932,988	\$9,443,000	\$23,715,988	\$39,902,459
Total Cost	\$36,797,824	\$85,828,404	\$188,709,485	\$286,606,122

**Total Cost for Elementary Schools: \$597,941,835**

## Middle Schools

Cost Factors	Very Small <50 Students	Small 50-99 Students	Medium 100-249 Students	Large 250+ Students
School Cost Per Pupil	\$8,248	\$8,435	\$7,767	\$6,845
District Adm. Cost Per Pupil	\$1,733	\$1,514	\$1,275	\$1,115
Total Per Pupil Cost	\$9,981	\$9,949	\$9,042	\$7,960
Total Pupils	2,536	2,513	4,066	17,570
Total Regular Education Cost	\$25,311,794	\$25,002,727	\$36,765,403	\$139,856,143
District Adm. Cost Per Sp. Ed. Student	\$1,121	\$1,656	\$1,657	\$1,091
Direct Cost Per Sp. Ed. Student	\$10,291	\$10,466	\$8,605	\$10,488
Total Additional Cost Per Sp. Ed. Student	\$11,412	\$12,122	\$10,262	\$11,579
Total Sp. Ed. Pupils	307	320	456	2,134
Total Sp. Ed. Cost.	\$3,503,608	\$3,879,025	\$4,679,572	\$24,710,345
Total Cost	\$28,815,402	\$28,881,752	\$41,444,975	\$164,566,488

**Total Cost for Middle Schools: \$263,708,617**

## **High Schools**

Cost Factors	Very Small <50 Students	Small 50-149 Students	Medium 150-399 Students	Large 400+ Students
School Cost Per Pupil	\$12,935	\$8,546	\$8,092	\$6,413
District Adm. Cost Per Pupil	\$1,733	\$1,514	\$1,275	\$1,115
Total Per Pupil Cost	\$14,668	\$10,060	\$9,367	\$7,528
Total Pupils	1,309	4,715	6,984	31,028
Total Regular Education Cost	\$19,200,099	\$47,433,326	\$65,421,105	\$233,572,832
District Adm. Cost Per Sp. Ed. Student	\$1,121	\$1,656	\$1,657	\$1,091
Direct Cost Per Sp. Ed. Student	\$10,291	\$10,466	\$8,605	\$10,488
Total Additional Cost Per Sp. Ed. Student	\$11,412	\$12,122	\$10,262	\$11,579
Total Sp. Ed. Pupils	128	524	605	3,349
Total Sp. Ed. Cost.	\$1,460,788	\$6,351,903	\$6,208,642	\$38,779,262
<b>Total Cost</b>	<b>\$20,660,886</b>	<b>\$53,785,228</b>	<b>\$71,629,748</b>	<b>\$272,352,094</b>

**Total Cost for High Schools: \$418,427,956**

### **Additional Cost Factors and Programs**

In addition to providing the required inputs for grade types and size, the expert panel also identified several cost factors and programs. The following table reflects the corresponding costs for each factor and program and is followed with more detailed information and total cost calculations.

<b>Additional Cost Factors &amp; Programs</b>	<b>Costs</b>
Elementary Students At-Risk Factor	\$1,193
Middle School Students At-Risk Factor	\$1,789
High School Students At-Risk Factor	\$2,385
Summer & Extended Day Programs For MontCas Non-Proficient	\$400
Gifted and Talented Programs	\$487
Pre-School Programs	\$1,206

## **Elementary Students At-Risk**

Those elementary students classified as Limited English Proficient and enrolled in the federal free and reduced lunch program were classified “at-risk”. The expert panel found that the extra cost identified by the A&M report should be increased by a growth factor and used for these students.

Therefore, the \$1,000 extra cost was increased by the 4.5 percent growth factor was compounded over four years to arrive at an elementary at-risk cost factor of \$1,193. This cost factor was then multiplied by the number of at-risk elementary students to arrive at the total extra funding required for elementary at-risk students.

Total cost of elementary students at-risk:  
\$1,193 multiplied by 31,216 = \$37,225,661

## **Middle School and High School Students At-Risk**

The expert panel found that the same classification of students should be used for middle school and high school students at risk. Furthermore, the expert panel found that the extra costs identified by the A&M report should also be used in the same manner. Therefore, the \$1,500 and \$2,000 extra costs for middle and high school students were increased to \$1,789 and \$2,385 and multiplied by the number of at-risk students at each grade level. Specifically:

Middle School at-risk student costs: \$1,789 multiplied by 11,188 = \$20,012,847

High school at-risk student costs: \$2,385 multiplied by 13,450 = \$32,078,750

**Summary Table for At-Risk Students**

	Number of Students	Cost Factor	Total Cost
Elementary School At-Risk	31,216	\$1,193	\$37,225,661
Middle School At-Risk	11,188	\$1,789	\$20,012,847
High School AT-Risk	13,450	\$2,385	\$32,078,750
<b>Totals</b>	<b>55,854</b>		<b>\$89,317,258</b>

## **Summer & Extended Day for MontCas Non-Proficient**

The expert panel also found that students not meeting proficiency standards on MontCas should be provided with the opportunity to attend summer and/or extended day programs. The cost for these programs was estimated at \$400 per student and some members of the expert panel stated that some of these costs would be offset by reduced expenditures associated with corrective actions under No Child Left Behind.

Analysis of MontCas scores for the 2004-05 school year found that 43.6 percent of students failed to meet math proficiency standards. It must be noted that only students in grades 3, 8 and 10 took the MontCas in 2004-05, but students in grades 3 through 8 and grade 10 will take MontCas beginning in the 2005-06 school year. Therefore, the total number of students in grades 3 through 8 and 10 was multiplied by 43.6 percent and then multiplied by the \$400 cost identified by the expert panel. The following calculation was used to arrive at the total program cost for students not meeting MontCas proficiency standards.

## Total Cost Calculation for Students not Meeting MontCas Proficiency Standards

- 79,252 students enrolled in grades 3 through 8 and 10 multiplied by 43.6 % = 34,559 students
- 34,559 students multiplied by \$400 = **\$13,823,719 Total Cost**

## Gifted and Talented Programs

The expert panel found that one-eighth of students in Montana should be enrolled in gifted and talented programs. In addition, the expert panel found that the gifted and talented program cost factor identified in the A&M report should be increased by the educational cost growth factor. Therefore, the cost calculation for gifted and talented programs was as follows:

- Gifted and talented cost factor identified by A&M report = \$408
- \$408 compounded by 4.5% over four years = \$487
- One-eighth of student population = 18,516
- 18,516 multiplied by \$487 = **\$9,008,794 Total Cost**

## Pre-School Programs

The expert panel found that 1 percent of Montana's student population should be enrolled in pre-school programs. Furthermore, the expert panel found that the pre-school program cost factor identified in the A&M report should be increased by the educational cost growth factor. Therefore, the cost calculation for pre-school programs is as follows:

- Pre-school cost factor identified by A&M report = \$1,011
- \$408 compounded by 4.5% over four years = \$1,206
- One percent of student population = 1,481
- 1,481multiplied by \$1,206 = **\$1,785,861 Total Cost**

It must also be noted that American Indian schools (schools with at least 50 percent of students being American Indian) were not a part of this analysis. The total costs of American Indian schools for the 2003-04 school year were increased by the 4.5 percent growth factor, with the results being utilized in the calculation of the total costs required for providing a quality education in Montana through the professional judgment method. Specifically, the cost for American Indian schools was calculated at

\$134,903,867. Therefore, additional costs for American Indian education identified through other parts of the study should be added to the total and required increase costs identified as noted.

### **Summary Table for Results of Professional Judgment Analysis**

<b>Program and Cost Factors</b>	<b>Spending Requirement</b>
Elementary Schools	\$597,941,835
Middle Schools	\$263,708,617
High Schools	\$418,427,956
Elementary School Students At-Risk	\$37,225,661
Middle School Students At-Risk	\$20,012,847
High School Students At-Risk	\$32,078,750
Extended Day and Summer Programs for Non-Proficient MontCas Students	\$13,823,719
Gifted & Talented Programs	\$9,008,794
Pre-School Programs	\$1,785,861
American Indian School Expenditures	\$134,903,867
<b>Total Required Funding</b>	<b>\$1,528,917,907</b>
Estimated Funding for FY06	\$1,200,000,000
<b>Required Increase in Funding</b>	<b>\$328,917,906</b>

As this table shows, the professional judgment method requires significant increases in funding in order to provide a quality education in Montana. On a percentage basis, the \$ 328,917,906 increase equals a 27.4 percent required increase in funding.

## Results From District Surveys: Ratio of Students to Personnel

\*Results with a range is based on ratio for different classification of students

	Grades K-2	Grades 3-5	Grades 6-8	Grades 9-12
Regular Education Teacher	14.3	17.1	19.8	20.9
Special Education Teacher	10.2	11.8	12.5	11.1
F&R Teacher	13.1	15.8	15.5	16.3
LEP Teacher	11.4	14.1	14.7	13.9
Regular Education Aide	31.0	39.7	49.1	57.4
Special Education Aide	10.2	12.4	13.6	12.4
F&R Aide	17.6	20.4	21.6	23.8
LEP Aide	18.1	20.6	24.5	23.4
Specialists	41-82	46-90	64-98	54-112
Physical Education	70-94	77-106	65-92	58-71
Art & Music	45-68	62-88	50-77	43-56
Librarian	208-237	204-242	211-237	228-270
Tech Specialist	167-202	200-242	196-235	198-221
Guidance	202-237	180-234	184-238	200-250
Nurse	318-522	322-542	330-460	311-534
Psychologist	323-469	264-630	221-580	187-543
Speech Pathologist	222-287	180-363	245-456	235-489
Occupational Therapist	365-916	427-1031	568-1178	432-1087
Physical Therapist	604-1244	617-1268	801-1875	612-1467
Principal	247	276	295	280
Assistant Principal	370	335	356	316
Clerical	181	216	179	210
Substitutes	1 per 9.2 teachers	1 per 10.4 Teachers	1 per 10.75 Teachers	1 per 11.5 Teachers
Cooks	110	136	131	141
Custodian	95	130	107	120
Professional Development Per Teacher	620	608	571	468
Professional Development Per Aide	230	268	294	314
Professional Development Per Support Staff	209	241	303	140
Professional Development Per Administrator	665	625	545	345
Instructional Supplies	280	217	257	305
Equipment	142	135	164	209
Technology	145	182	213	319
Assessment	42-132	54-104	63-111	42-89
Student Activities	70	102	160	380
Safety	32	39	45	73
District Cost per Student	\$423 for all			

# **Indian Education Achievement Gap Analysis**

Montana is unique regarding its public elementary and secondary educational needs. One of the major public policy issues is the number and the achievement issues of American Indian children, who are present within the public schools throughout the state. Thus, the research team decided early within its research methodology to form a separate professional judgment panel that would concentrate on the education of American Indian students in the state. This panel convened the most knowledgeable and conversant professionals available in the state of Montana regarding the education of American Indian students. The professional judgment approach is utilized in this instance for a separate analysis and specific application regarding the education of American Indian students.

## **Expert Panel Report**

### **Background to Hold Separate Panel Meeting**

For American Indian students in the state of Montana, a quality education will provide a culturally responsive curriculum, trained educators, and academic resources that support them to achieve at a proficient academic level. The attitudes, beliefs, and actions of the school must model respect for cultural diversity, celebrate the contributions of diverse groups, and foster understanding and acceptance of racial and ethnic plurality.

It is important for the Legislature to understand that culturally responsive teaching does not consist of a recipe or series of steps that classroom teachers can follow, but instead relies on a positive disposition toward learners and their culture. The educational process is founded upon traditional tribal values and principles using the most appropriate concepts, technologies and content of modern education<sup>18</sup>. A culturally responsive curriculum will include a sequential K-12 native language program that allows students to meet the Montana World Language standards, which states “Language study is communication-based and requires a sequential curriculum that provides consistent and increasing contact with the language and culture.” To maximize efforts, the K-12 language program should coordinate with pre-school and tribal college work.

### **Identification of Schools to be Notified**

The first group of schools identified as schools serving a high percentage of American Indian students examined those schools with at least a 50 percent American Indian population. This produced a list of reservation-only schools in mostly homogeneous communities. The identification was refined to 30 percent, which provided a cross-section of schools with significant number of American Indian students and more broadly representative of the diversity of American Indian communities. It did, however leave out urban settings. Thus, the professional judgment panel changed its examination to a student count; thus, the panel was able to identify urban settings with significant numbers of American Indian population.

The schools on this larger list were then selected for those from each of the Montana Association of School Superintendents (MASS) regions within the state, and additionally, for schools representing both American Indian high performance and low performance on reading proficiency. The reading scores

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<sup>18</sup> G. A. Cajete, *Look to the Mountain: Ecology of Indigenous Education*, Kivaki Press, 1994.

were utilized as opposed to both reading and math. There is a strong similarity of the scores when the ranges of schools were examined. In other words, schools with low performance in math were also likely to have low performance in reading, and visa versa.<sup>19</sup>

### **Survey Form and Data Gathering**

The school officials were telephoned and emailed the survey form, Professional Judgment Instructions, a sample of a completed form, and a list of the schools being selected. The same form was used as in the larger Montana Professional Judgment survey.

In conversation with personnel responsible for completing the survey form, the conversion to a teacher/student ratio was a challenge. Of the twelve schools contacted to complete form, five completed the forms and one additional school completed the form. Data provided were widely disparate. This may in part be due to having schools with both high and low performing proficiency.

The data survey form is a composite of the completed forms. In addition to the composite, the expert panel had a daylong discussion of the topic, process, and data concerning the closing of the American Indian achievement gap in Montana.

### **Expert Panel Invitations and Attendance**

Expert panel members were selected from recommendations within Indian educators to represent the regions of the state, rural schools, urban schools, Indian educators, and non-Indian educators with Indian students. Of the twelve people invited, only five were able to attend. The forms returned from the schools were used as discussion for the breadth of information. Closing the achievement gap of Montana American Indian students is a long-term discussion enlightened by recent increases in good information identifying the gap, and the many associated issues.

### **Presentation to Professional Judgment Expert Panel**

In examining the issue of disparate programs and approaches to educating American Indian students, it was quickly a question of overlap between disaggregated assessment data. The Native American data overlaps with Limited English Proficient (as defined below) and Free and Reduced (i.e.: poverty). At the present time, Montana does not determine the overlap of students counted in the various disaggregated groups.

Within the panel of experts, two schools were able to provide a count to look at this overlap question. Actual numbers were used to determine that approximately one-third of students in each school (Arlee and Poplar) are identified as LEP, free and reduced lunch, and American Indian. When the numbers were re-examined as American Indian only, two thirds were identified as both LEP and free and reduced lunch. This topic will require further data collection to determine if these proportions of overlap stay consistent in the context of the state. However, as a first indicator of this overlap, certain assumptions

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<sup>19</sup> The schools included: Lodge Grass Elem., Browning H.S., Box Elder Elem., Arlee Elem., Arlee H.S., Poison Elem., Vallier H.S., Brockton Elem., Colstrip Elem., Colstrip H.S., Thompson Falls Elem., Camas Prairie Elem., Medicine Lake K-12 Schools, Hardin H.S., Hays-Lodge Pole K-12 Schools, Lame Deer H.S., and Butte Elem.

were made. The achievement gap of American Indian students is, in similarity to achievement gap of other students, related to poverty and literacy.

Certainly the issues that affect a student's ability to succeed include the influence of parents and community. As elementary and secondary schools work to include Indian Education for All Montanans and to close the achievement gap, the relationship between the school and parents may also benefit. Much in the history of the education of Indian students has a lingering detrimental impact for education today. It is the judgment of the expert panel that it will take intentional focus from all to address the achievement gap's many sources. In this effort, a good educational relationship with the state's tribes may be fostered through the Montana Advisory Council on Indian Education (MACIE) authorized through state policy.

### **The Overall Model<sup>20</sup>**

The overall structure of the model that is recommended for the application to American Indian education in the state of Montana has largely been adapted from the strategies as developed by the National Dropout Prevention Center/Network (NDPC/N). The Center began in 1986 and was designed to serve as a clearinghouse on issues related to dropout prevention. Additionally, the Center presents a variety of strategies designed to increase the graduation rate in America's schools. The Center engages in a clearinghouse function, research projects, publications, and offers a variety of professional development activities.

The panel identified fifteen effective strategies that have the most positive impact on the dropout rate. These strategies have been implemented successfully at all education levels and environments throughout the nation.

#### **School and Community Perspective**

**Systemic Renewal**—A continuing process of evaluating goals and objectives related to school policies, practices, and organizational structures as they impact a diverse group of learner.

**School-Community Collaboration**—When all groups in a community provide collective support to the school, a strong infrastructure sustains a caring supportive environment where youth can thrive and achieve.

**Safe Learning Environments**—A comprehensive violence prevention plan, including conflict resolution, must deal with potential violence as well as crisis management. A safe learning environment provides daily experiences, at all grade levels, which enhance positive social attitudes and effective interpersonal skills in all students.

#### **Early Interventions**

**Family Engagement**—Research consistently finds that family engagement has a direct, positive effect on children's achievement and is the most accurate predictor of a student's success in school.

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<sup>20</sup> This section has been largely adopted from the National Dropout Prevention Center/Network <http://www.dropoutprevention.org/about/about.htm>

**Early Childhood Education**—Birth-to-five interventions demonstrate that providing a child additional enrichment can enhance brain development. The most effective way to reduce the number of children who will ultimately drop out is to provide the best possible classroom instruction from the beginning of their school experience through the primary grades.

**Early Literacy Development**—Early interventions to help low-achieving students improve their reading and writing skills establish the necessary foundation for effective learning in all other subjects.

### **Basic Core Strategies**

**Mentoring/Tutoring**—Mentoring is a one-to-one caring, supportive relationship between a mentor and a mentee that is based on trust. Tutoring, also a one-to-one activity focuses on academics and is an effective practice when addressing specific needs such as reading, writing, or math competencies.

**Service Learning**—Service-learning connects meaningful community service experiences with academic learning. This teaching/learning method promotes personal and social growth, career development, and civic responsibility and can be a powerful vehicle for effective school reform at all grade levels.

**Alternative Schooling**—Alternative schooling provides potential dropouts a variety of options that can lead to graduation, with programs paying special attention to the student's individual social needs and academic requirements for a high school diploma.

**After-School Opportunities**—Many schools provide after-school and summer enhancement programs that eliminate information loss and inspire interest in a variety of areas. Such experiences are especially important for students at risk of school failure because they fill the afternoon "gap time" with constructive and engaging activities.

### **Making the Most of Instruction**

**Professional Development**—Teachers who work with youth at high risk of academic failure need to feel supported and have an avenue by which they can continue to develop skills, techniques, and learn about innovative strategies.

**Active Learning**—Active learning embraces teaching and learning strategies that engage and involve students in the learning process. Students find new and creative ways to solve problems, achieve success, and become lifelong learners when educators show them that there are different ways to learn.

**Educational Technology**—Technology offers some of the best opportunities for delivering instruction to engage students in authentic learning, addressing multiple intelligences, and adapting to students' learning styles.

**Individualized Instruction**—Each student has unique interests and past learning experiences. An individualized instructional program for each student allows for flexibility in teaching methods and motivational strategies to consider these individual differences.

**Career and Technical Education (CTE)**—A quality CTE program and a related guidance program are essential for all students. School-to-work programs recognize that youth need specific skills to prepare them to measure up to the larger demands of today's workplace.

## **Summary**

The following topics represent a consensus of topics related to the achievement gap. The following recommendations are based on the experience of individuals responsible for designing programs to enhance professional development and assist students in successful academic performance.

- Professional Development days—The panel discussed a variety of topics that are associated with Indian education and requiring professional development for the school staff. The recommendation from schools that are impacting performance is to increase the number of professional development provided by the school by two to five days annually. Suggested concepts would include the following:
  - Subject Specific (literacy, math, and so on),
  - Framework for Understanding Poverty
  - Language Knowledge (historic, acquisition, LEP, and so on),
  - American Indian (student, family, community demographics),
  - Mental Health (counseling, drug/alcohol presentations),
  - Data (program, curriculum development),
  - Teaching Styles versus Learning Styles
  - Curriculum Standards (alignment and assessment), and
  - Cultural context of the community of the school
- Student/Teacher ratio—Consistent with the recommendations of the larger Professional Judgment Panel, a smaller student/teacher ratio is recommended in all grades.
- Support staff—Additional staff with strong professional experience to assist the school to close the pervasive achievement gap for students includes guidance counselors, school psychologists, dropout prevention specialists, outreach advocates, career counselor, and cultural specialists. By applying the components of dropout prevention, students are supported in their positive choices for educational future. These resources assist in changing community expectations for youth. A particular concern was raised over inadequate credit and alternatives for students.
- High Expectations/Clearinghouse for resources—High expectations should be coupled with well-trained staff and quality resources. It is not enough to expect more, the related supports need to be in place to reach the high expectations, and the staff members need to have a good understanding of the student's concerns and circumstances.
- Stable workforce/increase American Indian certified and non-certified personnel—All too often, reservation schools have high turnovers of administrators, teachers, and staff. This hinders continuity of focus and programs. In addition to a stable workforce, it is desirable for students to see themselves reflected in successful educators.

Determining the actual costs of these concepts cannot be fully determined by the panel. No state has developed a generalizable model to reach American Indian students and to close the achievement gap.

Notwithstanding this major limitation two overall concepts are proposed to overcome this barrier. The first concept is found within the advanced statistical model analysis in having the Legislature appropriate a set amount of funds for pilot programs that would be evaluated and implemented based on the programs that offer the greatest success as determined by the state. The other concept would be that schools that have large numbers of American Indian students, under the proposed student weighted model would receive significant new moneys to implement programs for these students. Thus, the state has two major thrusts that it can implement at the same time resulting in a profound movement toward closing the achievement gap.

While the American Indian professional judgment panel was not able to cost out these programs, the research term was able to determine and to operationalize these goals within the overall programs that to this point have been suggested based on the research. Virtually all of the activities of the American Indian professional judgment panel are included in the other research methodology models. Thus, the following cost figures have been determined.

<b>Professional Judgment Regarding Indian Education</b>	<b>Projected Additional Costs</b>
School and Community Perspective	\$5.1 Projected part of Closing the Achievement Gap Pilot Program
Systemic Renewal	Achievement Gap Pilot Program
School-Community Collaboration	Achievement Gap Pilot Program
Safe Learning Environments	Achievement Gap Pilot Program
Early Interventions	\$ 5.0 Million part of Early Intervention Pilot
Family Engagement	Early Intervention Pilot
Early Childhood Education	Early Intervention Pilot
Early Literacy Development	Early Intervention Pilot
Basic Core Strategies	Early Intervention Pilot
Mentoring/Tutoring	Early Intervention Pilot
Service-Learning—	Early Intervention Pilot
Alternative Schooling	Early Intervention Pilot
After-School Opportunities	Early Intervention Pilot
Making the Most of Instruction	Early Intervention Pilot
Active Learning	Early Intervention Pilot
Educational Technology	\$ 2 Million part of facility study
Individualized Instruction	Early Intervention Pilot
Career and Technical Education (CTE)—	Achievement Gap Pilot Program
Professional Development days	\$ 3.6 Million part of state-wide program
■ Student/Teacher ratio—	Achievement Gap Pilot Program
■ Support staff—	Young & Stoddard Report
■ Stable workforce/increase	Young & Stoddard Report
<b>Total</b>	<b>\$ 15.7 Million</b>

# **Successful School Analyses**

The process of identifying expenditure information for schools meeting specified performance measures is known as the “successful school/school district” method for determining adequacy, and was first used in the state of Ohio in 1997.<sup>21</sup> Since then, eight other states have undertaken successful school studies to help shed light on issues of adequacy.<sup>22</sup> The greatest strength to the method is its face validity.

Specifically, as John Augenblick, the developer of this method states, “the underlying assumption is that any school should be able to accomplish what some schools do accomplish.”<sup>23</sup> However there are also weaknesses to the method. Specifically, performance measures may not provide information on all students in an education system, as is the case in Montana where only three grades are administered the criterion-referenced and norm referenced tests. In addition, opponents of the method claim that variations in student demographics make comparisons of expenditures misleading.

However, even with the limitations associated with the approach, the successful schools analyses undertaken do provide valuable insights into the expenditures required to provide a quality education in Montana. The following provides information on the sample universe used in this analyses, data elements and collection, definitions of success, how student demographics were taken into account, and the results of the analyses.

In order to enhance the validity of this successful school and school district study, expenditure and performance information were obtained for all 843 public schools and 434 public districts in Montana.

## **Data Elements and Collection**

The following provides overviews on the various data elements used for the study along with data collection procedures.

### **Expenditure Data**

The first data element collected was district expenditures for all 434 public school districts in Montana for the 2003-04 school year, the most current data available. Data were downloaded in Microsoft Excel format from the Montana Office of Public Instruction’s website and included expenditures by program, function and object. It must be noted that this study focused on the operational expenditures of schools and school districts, and therefore, expenditure information regarding facilities and transportation needed to be excluded from the analysis. Discussions with the Office of Public Instruction’s finance

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<sup>21</sup> J. Augenblick and J. Myers, *Recommendations for a Base Figure and Pupil-Weighted Adjustments to the Base Figure for Use in a New School Finance System in Ohio*. Technical Report for Ohio Legislature (1997).

<sup>22</sup> Successful school studies have been performed in Mississippi, Illinois, Maryland, Kansas, Louisiana, Colorado, Missouri and New York. A *Costing Out Primer*: September 12<sup>th</sup> 2005. ACCESS, Campaign for Fiscal Equity. [Cited 12, 2005] Available from World Wide Web: ([http://www.schoolfunding.info/resource\\_center/costingoutprimer.php3](http://www.schoolfunding.info/resource_center/costingoutprimer.php3))

<sup>23</sup> J. Augenblick, *Determining Base Cost for State School Funding Systems*. Denver, CO: Educ. Comm. of the States Issue Brief, 1997.

director and legislative and executive staff allowed for the accurate identification of program, function and object expenditures that were excluded.

### **Student Enrollment Data**

School enrollment data for the 2003-04 and 2004-05 school years were obtained from personnel in the Office of Public Instruction. The enrollment data were provided on a per school basis, which was then aggregated at the district level. In addition to providing total enrollment, the number of students eligible for the federal free and reduced lunch program, special education students, Limited English Proficiency students, and American Indian students was also obtained.

### **Per-Pupil Expenditures**

The total district expenditures, excluding facilities and transportation expenditures were then divided by district enrollments for the corresponding 2003-04 school year to arrive at district average per-pupil expenditure. The district per-pupil expenditure was utilized in all analyses that compared expenditures to student performance measures. It must be noted that district per-pupil expenditures served as a proxy for school expenditures within a given district when comparing expenditures to school performance. Specifically, Montana like the majority of the states does not have school level expenditures, and expenditure data are only collected at the district level. Although using district per-pupil expenditures as a proxy for all schools in a district may not provide the actual expenditures of a given school, this limitation is not as severe in Montana given that many districts in the state only have one school, and overall there are 843 schools in 434 districts.

### **Criterion Referenced Test**

The state of Montana created a criterion referenced test called MontCas that is aligned with state standards and was first administered to students in grades four, eight, and ten in the 2003-04 school year to measure proficiency in math and reading. The test has four performance classifications: novice, nearing proficiency, proficient and advanced, and schools report the percent of students in each category. MontCas results for the 2003-04 and 2004-05 school year were utilized.

### **Norm Referenced Test**

The state of Montana has administered the Iowa Test of Basic Skills (ITBS) norm referenced test to students in grades four, eight and eleven for several years. Like the MontCas, the performance classifications for the ITBS are novice, nearing proficiency, proficient and advanced that measure student mastery in language arts, reading, math, science and social studies. ITBS results for the 2000-01 and 2003-04 (the most recent performance information available for ITBS) were utilized.

### **Graduation Rates**

Each year the state of Montana calculates graduation rates for high schools based on the number of graduates a school has compared to enrollment of ninth graders from four years prior, adjusting for

dropouts and population changes.<sup>24</sup> Graduation data for the 2001-02 and 2003-04 (most current year available) were obtained from personnel in the Office of Public Instruction.

### **Student to Teacher and Student to Staff Ratios**

Data regarding the total number of teachers and education staff (includes administration, teacher aides, specialists etc. and does not include janitors, cafeteria staff etc.) in a school are collected by the Office of Public Instruction each year, and data for the 2004-05 school year were downloaded from the Office of Public Instruction. The total enrollment for each school was divided by the number of teachers in the school to arrive at a student to teacher ratio. Then the total enrollment for each school was divided by the number of total education staff in each school to arrive at a student to staff ratio. These ratios will be provided along with per-pupil expenditure levels for schools that met and did not meet various performance standards.

### **District Accreditation Status**

There is an Accreditation Division within Montana's Office of Public Instruction with the role to, "assist school districts in the implementation of the Montana Accreditation Standards and monitors district and school progress to meet or exceed these rules."<sup>25</sup>

Based on how well school districts are meeting state accreditation standards, districts are classified as regular (full accreditation), regular with deviations, advice or deficiency. Information regarding district accreditation status for the 2004-05 school year was obtained from the Office of Public Instruction.

### **AYP**

It should be noted that adequate yearly progress (AYP) information under the federal No Child Left Behind education act for Montana schools and school districts was available for analysis. However, these performance measures were not utilized given the significantly high proportion of schools and districts in Montana that met AYP. Specifically, 93 percent of Montana schools made AYP for the 2004-05 school year,<sup>26</sup> making comparisons between those making and not making AYP assessments of little use in linking expenditures to student performance standards.

### **Information from Needs Assessment Survey**

Results from the Needs Assessment portion of this study were also compared to expenditure information. Specifically, administrative units were asked to rate the appropriateness of Math, English, Science and Social Studies operations as either poor, deficient, adequate, good or exceptional at the

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<sup>24</sup> *Data and Reports for Download*. Montana Office of Public Instruct. [Cited 11 June 2005] Available from World Wide Web: <http://www.opi.mt.gov/PDF/Measurement/rptHsCompleteGradRate2004.pdf>

<sup>25</sup> *Accreditation Division (MontCas)*. Montana Office of Public Instruction. [Cited 11 June 2005] Available from World Wide Web: <http://www.opi.mt.gov/Accred/Index.html>

<sup>26</sup> *Accreditation Division (MontCas)*. Montana Office of Public Instruction. [Cited 17 June 2005] Available from WWW: <http://www.opi.mt.gov/PDF/Accred/AccredStandards2001.pdf>.

<sup>26</sup> 93 percent of Montana Schools Meet Federal Education Requirements. Montana Office of Public Instr. [Cited 8 September 2005] Available from WWW: <http://www.opi.state.mt.us/Supt/NewsStories/05CDC61876.html>

elementary and high school level. Those administrative units that reported Math, English, Science and Social Studies as either good or exceptional were compared to administrative units that reported them as either poor, deficient or adequate.

### **Taking Student Demographics into Account**

As previously discussed, comparing schools and school districts that met and did not meet various performance standards through the successful school methodology provided valuable information on the expenditures required to provide a quality education. However, as previously noted, one of the major critiques of the method is performance and expenditure information do not account for differences in student characteristics and demographics.<sup>27</sup> In order to overcome this limitation several procedures were implemented in order to take into account differences in student demographics between schools.

Specifically, it must be noted that the state of Montana has a number of schools (seventy-three) with at least 50 percent of the student body being American Indian. These “American Indian” schools have significantly higher expenditures than non American Indian schools due to the federal impact aid they receive. In fact, per-pupil expenditures at American Indian schools are 53 percent higher than non American Indian schools. Unfortunately, American Indian schools do not perform well on any of the student performance measures utilized in this study, and to have included American Indian schools in comparisons of successful versus non-successful schools would have inflated non-successful school expenditures. Therefore, American Indian schools were excluded in comparisons between successful and non-successful schools and districts.

### **Creation of a Discount Per-Pupil Expenditure Rate**

Furthermore, when comparing successful and non successful schools (excluding American Indian schools), the percentage of students eligible for the federal free and reduced lunch program, special education students, Limited English Proficiency students, and American Indian students was taken into account through the creation of a “discount rate per-pupil expenditure.” Specifically, all can agree that those schools serving higher proportions of “at-risk” populations will have to spend more per-pupil in order to be successful given the extra needs and services these students have and require. For example, a school with 50 percent free and reduced lunch students, 20 percent special education and 10 percent Limited English Proficiency students will require a higher per-pupil expenditure in order to succeed than a school with half as many at-risk students. Therefore, simply examining per-pupil expenditures of successful and non successful schools without adjusting for student demographics is an invalid means of determining how much is required in order for schools to meet performance standards and provide a quality education.

The discount rate per-pupil expenditure allows for a more valid comparison of successful and non-successful schools and adjusts per-pupil expenditures based on student demographics. Specifically, the discount rate created assumed those students eligible for the federal free and reduced lunch program cost 25 percent more to educate, resulting in a 25 percent discount rate for free and reduced lunch students. This percentage for free and reduced lunch students was based on an analysis of additional funding

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<sup>27</sup> J. Guthrie and R. Rothstien, "Enabling Adequacy to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements," *Equity and Adequacy in Education Finance: Issues and Perspectives*, Washington DC, National Academy Press, 1999, 215.

provided by states across the country.<sup>28</sup> While it must be noted that variation existed among states in the additional percent of funding provided for free and reduced lunch students, and some states also took into account concentration of poverty, the 25 percent additional funding was the most commonly used and was close to the mean.<sup>29</sup>

The discount rate also assumed that Limited English Proficient (LEP) students and American Indian students cost 25 percent more to educate, resulting in a 25 percent discount rate for these classifications of students. The percent for LEP students was also based on an analysis of additional funding provided by states across the country,<sup>30</sup> and the American Indian student percentage was determined to be equivalent to that of free and reduced lunch and LEP students.

Furthermore, the discount rate assumed that special education students cost 100 percent more to educate and was based on research conducted by the Center for Special Education Finance. Specifically, the Center for Special Education Finance's Special Education Expenditure Project found that spending for special education students across the country was 1.9 times that of regular education students for the 1999-2000 school year.<sup>31</sup> The 90 percent more spent on special education students was increased to 100 percent for the discount rate used in this study due to the significant increases in health care costs that have occurred since the 1999-2000 school year.

### **Example of How Discount Rate Per-Pupil Expenditure is Applied**

Two hypothetical schools in Montana are illustrated with different expenditures and percentages of free and reduced lunch students, special education students, Limited English Proficiency (LEP) students and American Indian (AM-IN) students. School "A" met a performance standard, and school "B" did not.

	Per-Pupil Expenditure	%Free & Reduced	%Special Ed	%LEP	%AM-IN
School A:	\$7,000	20%	10%	6%	5%
School B:	\$7,100	30%	15%	8%	9%

To say that the successful school (School A) spent less than the non successful school (School B) would be a mistake given the differences in student demographics. Therefore, the per-pupil discount rate is applied to allow for a more valid comparison. Specifically, the non successful school had 10 percent more free and reduced lunch students, which when multiplied by the 25 percent discount rate results in 2.5 percent discount for free and reduced lunch students. The non successful school also had 5 percent more special education students, which when multiplied by the 100 percent discount rate equals a 5 percent discount. Furthermore, the non successful school had 2 percent more LEP students and four

<sup>28</sup> *Education Finance Database*. National Conf. of State Legis. [Cited 11 June 2005] Available from WWW: [http://www.ncsl.org/programs/educ/ed\\_finance/index.cfm](http://www.ncsl.org/programs/educ/ed_finance/index.cfm)

<sup>29</sup> *Education Finance Database*. National Conf. of State Legis. [Cited 11 June 2005] Available from WWW: [http://www.ncsl.org/programs/educ/ed\\_finance/index.cfm](http://www.ncsl.org/programs/educ/ed_finance/index.cfm)

<sup>30</sup> *Education Finance Database*. National Conf. of State Legis. [Cited 11 June 2005] Available from WWW: [http://www.ncsl.org/programs/educ/ed\\_finance/index.cfm](http://www.ncsl.org/programs/educ/ed_finance/index.cfm)

<sup>31</sup> J Chambers, T. Parrish, *What are we Spending on Special Education Services in the United States, 1999-2000?* U.S. Dept. of Educ., Office of Special Education Programs. (2004).

percent more American Indian students, which when multiplied by the 25 percent discount rate results in a .5 percent and 1 percent discount for each respective classification. The results of applying the discount rate for all classifications of students is then totaled, 2.5 percent for free and reduced students, 5 percent for special education students, .5 percent for LEP students and 1 percent for American Indian students equals 9 percent total.

The per-pupil expenditure (\$7,100) for the non-successful school is then reduced by 9 percent, with the result being a discount rate per-pupil expenditure of \$6,461. When this discount rate per-pupil expenditure for the non-successful school is compared to the expenditure level of the successful school, \$7,000, the result is that the successful school spent 8.3 percent more than the non-successful school. As previously stated, simple comparisons between per-pupil expenditures of successful and non-successful schools is invalid since student demographics are not taken into account. The application of the discount rate per-pupil expenditure allows for a more accurate comparison between schools and more valid findings in respect to education adequacy in the state of Montana.

## **Overview of Performance Measure Criteria**

As previously outlined in this chapter, data were obtained on school graduation rates, and school performance on the states criterion referenced test (MontCas) and norm-referenced test (ITBS). In addition, data of school district accreditation status were also obtained. The next step was to define what level of performance would define success on these measures. It must be noted that absolute performance and improved performance were both used as measures of success in this study. The following provides overviews on successful criteria for each performance measure.

### **Criterion Referenced Test (MontCas)**

Two criteria were established to measure absolute performance success on MontCas. Specifically, those schools that had at least 60 and 75 percent of students scoring proficient or advanced on the math and reading sections of MontCas were identified as successful. It should be noted that comparisons of schools meeting the 60 percent threshold to those that did not was also analyzed by school size.

Two criteria were also established to measure improved performance success on MontCas. Specifically, schools that had at least 10 percent more of students scoring proficient or advanced on MontCas for the 2004-05 school year as compared to the 2003-04 school year were identified as successful. In addition, those schools that had 10 percent less of the students scoring novice on MontCas in 2004-05 as compared to 2003-04 were identified as successful.

### **Norm Referenced Test (Iowa Test of Basic Skills)**

One criterion was established to measure absolute performance success on the Iowa Test of Basic Skills (ITBS). Specifically, those schools that had at least 75 percent of students scoring proficient or advanced on all five sections of the ITBS were identified as successful. Three criteria were established to measure improved performance success on ITBS. First, those schools that had at least 10 percent more students scoring proficient or advanced on all five sections of the ITBS in 2003-04 as compared to 2000-01 were identified as successful. Then, those schools that had at least 10 percent more students scoring proficient or advanced on three sections of the ITBS in 2003-04 as compared to 2000-01 were identified as successful. Finally, those schools that had at least 10 percent less students scoring novice on three sections of the ITBS in 2003-04 as compared to 2000-01 were identified as successful.

## **Graduation Rates**

Those schools with at least a 90 percent graduation rate for the 2003-04 school year were identified as successful.

## **Accreditation Status**

Those districts that met full accreditation status (i.e. Regular) were identified as successful.

## **Calculation of Per-Pupil Expenditures and Student Demographic Percentages for Successful and Non Successful Schools**

After groups of schools had been identified as successful or non-successful for each performance measure, they were ranked based on average per-pupil expenditure. Schools that were in the top and bottom 5 percent in respect to average per-pupil expenditure were removed from each group so that statistical outliers would not negatively impact the analysis. The number of students in each school within a given group was then multiplied by the school per pupil expenditure, resulting in total school expenditure. The total school expenditures were then summed and divided by the total enrollment of all schools within a given group to arrive at a successful and non-successful average per-pupil expenditure.

Then the number of free and reduced, special education, LEP and American Indian students in each school within a given group were summed and divided by the total student enrollment to arrive at an average percent of special population students for each group.

As previously discussed, once the average per-pupil expenditure and special population percentages were established for successful and non successful schools on each performance measure, the discount rate per-pupil expenditure calculation was applied. It should be noted that in many cases there were significantly more non-successful schools than successful schools, which often affected the average school size. In order to make a more valid comparison, a sample of non-successful schools was taken based on size.

In summary, there were a wide variety of analyses undertaken that compared average per-pupil expenditures of successful and non-successful schools. These multiple analyses provide valuable information on how student expenditures relate to performance outcomes, and illuminate issues over the expenditures required to provide a quality education in the state of Montana. The following provides the results of these analyses.

**Results of Successful School and School District Analyses**  
 The following table provides information on all schools in Montana.

Type of School	Number of Schools	Per. Pup. Exp. Mean	Enrollment Mean	F&R%	Sp. Ed. %	LEP %	AM IN%	Teacher Ratio Mean	Staff Ratio Mean
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

As previously noted, those schools with at least 50 percent American Indian students spend significantly more than non American Indian schools, and therefore they were omitted when comparing successful to non-successful schools.

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the Reading and Math Sections on MontCas 2005**

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

As previously discussed, to simply look at expenditures without taking into account variations in student demographics would be misleading. The following table provides an overview on how the discount per-pupil expenditure rate is applied.

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 60% on Math & Reading	215	\$6,765	279	26.62%	10.58%	.99%	4.44%	15.5	11.9
Schools <60% Math & Reading	236	\$6,861	248	31.77%	11.42%	1.23%	6.10%	15.3	11.4
Special Population Differences				5.15	.84	.24	.1.66		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				1.29	.84	.06	.42	Total 2.61%	
Discount Per Pup. Exp.	1-.0261	.9739	.9739* \$6,861	Equals \$6,682	\$6,682 is 1.24% Less than \$6,765	1.24% * \$1.2 Billion	\$14.9 Million More		

As the table shows, the non-successful schools had 5.15 percent more students eligible for the federal free and reduced lunch program (F&R), .84 percent more special education students, .24 percent more LEP students, and 1.66 percent more American Indian students. These percentages were then multiplied by the corresponding discount rate for each classification of student. Specifically, 25 percent for F&R, LEP and American Indian students, and 100 percent for special education students, resulting in a discount rate of 1.29 percent, .84 percent, .06 percent, and .42 percent for each classification, and 2.61 percent total. The average expenditure for the non-successful schools was then multiplied by the total discount rate ( $1 - .0261 = .9739$ ) to arrive at a discount per pupil average expenditure of \$6,682, which is 1.24 percent less than \$6,765, the average per pupil expenditure for successful schools.

For the 2005-06 school year, it is estimated that the state of Montana will spend \$1.2 billion on K-12 operations (i.e. total expenditures minus expenditures for transportation and facilities).<sup>ii</sup> Therefore, \$1.2 billion times 1.24 percent equals \$14.9 million, which under this performance measure is the amount of additional funding required to provide a quality education in Montana. As is seen throughout this report, different performance measures will provide different results as to how much additional funding is required.

**Schools with at least 75 Percent of Students Scoring Proficient or Advanced on the Reading and Math Sections on MontCas 2005.**

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 75% on Math & Reading	56	\$6,620	203	27.34%	8.96%	.65%	4.22%	15.0	11.7
Schools <60% Math & Reading Sample	56	\$6,834	203	31.60%	11.08%	.65%	5.70%	15.1	11.2
Special Population Differences				4.26	2.12	0.0	1.48		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				1.06	2.12	0.0	.37	Total 3.56%	
Discount Per Pup. Exp.	1-.0356	.9644	.9644* \$6,834	Equals \$6,591	\$6,591 is .44% Less than \$6,620	.44%* \$1.2 Billion	\$5.3 Million More		

As can be seen in the table, the 75 percent performance measure found that an additional \$5.3 million is required to provide a quality education in Montana.

In addition to examining the expenditures for all schools that had at least 60 percent of students scoring proficient or advanced on the math and reading sections of MontCas in 2005, this report also looked at the expenditures of successful and non-successful schools based on school size. The following section provides the results of the school size analyses and the total required increase in funding needed to provide a quality education in Montana.

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the  
Reading and Math Sections on MontCas 2005.  
Enrollment of 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
Special Population Differences				7.92	-.69	.67	3.77		
Discount Rate				.25	1.00	.25	.25		
Discount Rate Calculation				1.98	-.69	.17	.94	Total 2.40	
Discount Per Pup. Exp.	1-.0240	.976	.9760* \$8,608	Equals \$8,401	\$8,401 is 4.42% More than \$8,046				

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the  
Reading and Math Sections on MontCas 2005.  
Enrollment of 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
Special Population Differences				7.71	2.70	1.03	3.86		
Discount Rate				.25	1.00	.25	.25		
Discount Rate Calculation				1.93	2.70	.26	.97	Total 4.95	
Discount Per Pup. Exp.	1-.0495	.9505	.9505* \$7,962	Equals \$7,568	\$7,568 is 3.79% less than \$7,866				

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the  
Reading and Math Sections on MontCas 2005.  
Enrollment of 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
Special Population Differences				3.82	.88	.65	1.79		
Discount Rate				.25	1.00	.25	.25		
Discount Rate Calculation				.95	.88	.16	.45	Total 2.45	
Discount Per Pup. Exp.	1-.0245	.9755	.9755* \$6,827	Equals \$6,660	\$6,660 is 1.76% less than \$6,779				

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the  
Reading and Math Sections on MontCas 2005.**  
**Enrollment of 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
Special Population Differences				4.87	.71	-.14	-.48		
Discount Rate				.25	1.00	.25	.25		
Discount Rate Calculation				1.22	.71	-.03	-.12	Total 1.78	
Discount Per Pup. Exp.	1-.0178	.9822	.9822* \$6,430	Equals \$6,316	\$6,316 is .79% more than \$6,266				

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the  
Reading and Math Sections on MontCas 2005.  
Enrollment of 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
Special Population Differences				2.40	-.57	-.21	-.36		
Discount Rate				.25	1.00	.25	.25		
Discount Rate Calculation				.60	-.57	-.05	-.09	Total -.11	
Discount Per Pup. Exp.	1+.0011	1.0011	1.0011 * \$6,429	Equals \$6,436	\$6,436 is .56% more than \$6,400				

**Schools with at least 60 Percent of Students Scoring Proficient or Advanced on the Reading and Math Sections on MontCas 2005. Enrollment of Over 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
Special Population Differences				3.50	1.12	.08	3.65		
Discount Rate				.25	1.00	.25	.25		
Discount Rate Calculation				.97	1.12	.02	.91	Total 2.93%	
Discount Per Pup. Exp.	1 - .0293	.9707	.9707 * \$6,896	Equals \$6,694	\$6,694 is 2.05% less than \$6,834				

In order to calculate the required increases in funding based on school size performance it was necessary to determine what percentage of the total student population was served by each size classification. Then the percent of students served in each size classification was multiplied by the total estimated expenditure for the 2005-06 school year (\$1.2 billion) to arrive at an estimated expenditure per school size. The estimated expenditure per school size was then multiplied by the corresponding weight established through our analyses. It must be noted that three of the school sizes had negative weights, and therefore calculations were made without implementing the negative weights. The following table provides the results of these analyses.

## **Required Increase in Spending Based on School Size**

School Size	Total Population %	Est. Exp. FY06	Est. Total	Weight	Required Total Spending	W/O Negative Weight	Required Total Spending
600+ Students	23.2%	\$1.2B	\$279.3M	1.0205	\$285.03M	1.0205	\$285.03M
400-599 Students	20.0%	\$1.2B	\$240.5M	.9944	\$239.15M	1.0	\$240.5M
250-399 Students	25.7%	\$1.2B	\$308.3M	.9921	\$305.86M	1.0	\$308.3M
150-249 Students	12.9%	\$1.2B	\$154.8M	1.0176	\$157.52M	1.0176	\$157.52M
50-100 Students	12.9%	\$1.2B	\$155.1M	1.0379	\$160.98M	1.0379	\$160.98M
1-49 Students	5.2%	\$1.2B	\$62.1M	.9583	\$59.36M	1.0	\$62.1M
Totals	100%	\$1.2B	\$1.2B		\$1.2079B		\$1.2144B

As the table shows, an additional \$7.9 million in additional funding is required if the negative weights for school sizes were used, and \$14.4 million is required if negative weights were not used. Overall, the results on absolute performance measures on the MontCas test indicate that between \$ 5 and \$ 15 million additional dollars are needed to provide a quality education in Montana.

In mid July 2005 MontCas results for the 2004-05 school year were released, and this second year of MontCas test data allowed improvement analyses to be performed. It must be noted that only two years of test data is a limitation when looking at improvement, but it does provide a starting point that can be built upon in the future.

Two improvement performance measures were used in regard to MontCas test results. First, schools that increased the percent of students scoring proficient or advanced on both the math and reading sections of MontCas by 10 percent were identified as successful. Second, schools that moved at least 10 percent of the student population out of the novice classification were also identified as successful. The following tables provide information on successful and non-successful schools as identified by these performance measures.

**Schools that Increased at Least 10 percent of Student Population into Proficient or 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 Sample	89	\$6,738	223	30.68	11.54	.94	4.81	15.6	11.6
Special Population Differences				-6.09	.35	.36	-.80		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				-1.52	.35	.09	-.20	Total -1.27	
Discount Per Pup. Exp.	1+.0127	1.0127 * \$6,738		1.0127 Equals \$6,823	\$6,823 is 5.20% more than \$6,486	No Increase			

**Schools that Moved 10 Percent or More of Student Population out of Novice  
Classification 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	54	\$6,549	198	39.29	11.44	.22	5.13	15.0	11.2
Schools w/o 10% Gain Sample	54	\$6,935	194	39.07	12.92	1.48	5.88	14.6	10.7
Special Population Differences				-.22	1.49	1.26	.75		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				-.05	1.49	.31	.19	Total 1.91	
Discount Per Pup. Exp.	1-.0191	.9809	.9809 * \$6,935	Equals \$6,803	\$6,803 is 3.87% more than \$6,549	No Increase			

As shown in the previous tables, those schools that improved performance on MontCas spent less than those schools that did not improve performance on the two measures used in this analysis.

Analyses were also undertaken that examined improved test scores on the norm referenced test used in Montana, namely the Iowa Test of Basic Skills (ITBS). Specifically, average per-pupil expenditures for schools that had at least 10 percent of the student population move into the proficient or advanced categories on all five sections of the norm referenced test were compared to those that did not.

**Schools that Moved 10 Percent of Student Population into Proficient or Advanced Categories on all Five 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 10% Gain	21	\$6,958	125	40.95	11.22	.23	5.11	13.3	10.1
Schools w/o 10% gain sample	30	\$7,066	126	43.62	13.22	.42	5.15	13.5	10.2
Special Population Differences				2.66	2.00	.20	.04		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				.67	2.00	.05	.01	Total 2.72	
Discount Per Pup. Exp.	1-.0272	.9728 * \$7,066	.9728 * \$7,066	Equals \$6,874	\$6,874 is 1.22% less than \$6,958	1.22%* \$1.2 Billion	\$14.7 Million Increase		

In addition to looking at those schools in which at least 10 percent of the student population scored proficient or advanced on all five sections of the norm-referenced test, schools in which at least 10 percent of the student population scored proficient or advanced on three sections of the norm-referenced test were also analyzed.

**Schools that Moved 10 Percent of Student Population into Proficient or Advanced Categories 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	75	\$6,957	155	38.75	11.11	.60	6.05	14.1	10.5
Schools with out 10% on 3 subjects Sample	75	\$6,742	160	35.13	10.61	.81	4.46	14.6	10.9
Special Population Differences				-3.61	-.51	.21	-1.59		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				-.90	-.51	.05	-.40	Total -1.76	
Discount Per Pup. Exp.	1+.0176	1.0176	1.0176 * \$6,742	Equals \$6,861	\$6,861 is 1.40% less than \$6,957	1.22%* \$1.2 Billion	\$16.8 Million More		

As the previous two tables reflect, schools that improved performance on the norm referenced test spent more than those that did not, which is in contrast to the MontCas results. It must be noted that improvements on the norm-referenced test was over a three year span as compared to one year for the MontCas, and therefore are more valid measures of improvement. Along with analyses on improved performance on the norm-referenced test, absolute performance was also analyzed and the results are on the following page.

## Schools with 75 Percent of Students Scoring Proficient or Advanced on all Sections of Norm Reference Test

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 75% on all 5	184	\$6,748	306	24.52	10.44	1.24	4.63	15.7	12.0
Schools less than 75% on all 5	236	\$6,816	251	33.43	11.62	1.23	6.17	15.2	11.4
Special Population Differences				8.91	1.19	-.01	1.54		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				2.23	1.19	0	.39	Total 3.80	
Discount Per Pup. Exp.	1-.0380	.9620	.9620 * \$6,816	Equals \$6,557	\$6,557 is 2.91% less than \$6,748	2.91%* \$1.2 Billion	\$34.9 Million Increase		

In a similar manner to improved performance, absolute performance on the norm-referenced test shows that successful schools are spending more than non-successful schools. Furthermore, the required increase in funding is greater for absolute performance on the norm-referenced test as compared to the MontCas. As previously discussed, given that the MontCas has only been administered for two years, the validity of the test is not as strong as the norm-referenced test. In addition the norm-referenced test compares performance to students across the country unlike the MontCas, and until more MontCas data becomes available it can be argued that performance on the norm-referenced test is a better measure of whether students are receiving a quality education.

As previously addressed, school districts are designated as regular (full accreditation), regular with deviations, advice or deficiency in regards to their accreditation status. Those that were classified as “regular” were determined to be successful, and the following table provides a comparison of successful and non-successful districts as measured by accreditation.

### School Districts Fully Accredited Compared to Those That are Not

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 Sample	109	\$7,124	266	31.11	9.85	1.82	5.17	14	10.6
Special Population Differences				.56	-.29	1.23	2.15		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				.14	-.29	.31	.54	Total .70	
Discount Per Pup. Exp.	1-.0070	.9930	.9930 * \$7,124	Equals \$7,074	\$7,074 is .17% less than \$7,086	.17%* \$1.2 Billion	\$2.0 Million Increase		

In addition to looking at those districts that are fully accredited to those that are not, a comparison between fully accredited and districts classified as “deficiency” was undertaken.

## **Fully Accredited Compared to Deficiency Districts**

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 Sample	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
Special Population Differences				-.48	-1.01	.43	3.84		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				-.12	-1.01	.10	-.96	Total -1.98	
Discount Per Pup. Exp.	1+.0198	1.0198 * \$6,884		1.0198 Equals \$7,020	\$7,020 is 1.7% more than \$7,086	No Increase			

As seen in the previous tables, there is little to no difference in expenditures between fully accredited and non-accredited and deficiency districts. Next, an examination of schools that had and did not have 90 percent of their students graduating is addressed.

## Graduation Rates: 90 Percent+ vs. <90 Percent 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
Special Population Differences				3.15	1.65	.90	-.14		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				.79	1.65	.22	-.03	Total 2.63	
Discount Per Pup. Exp.	1-.0263	.9737	.9737 * \$7,810	Equals \$7,605	\$7,605 is 1.88% less than \$7,748	1.88%* \$1.2 Billion	\$23.2 Million Increase		

The final analyses undertaken compared expenditures to results from the Needs Assessment portion of the study. As previously outlined, administrative units were asked to rate the appropriateness of Math, English, Science and Social Studies operations as either poor (1), deficient (2), adequate (3), good (4) or exceptional (5) at the elementary and high school level. Those administrative units that reported the Math, English, Science and Social Studies as either good or exceptional were compared to administrative units that reported them as either poor, deficient or adequate.

**Elementary Needs Assessment: Good or Exceptional (4-5s) vs. Poor, Deficient or Adequate (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
Good or Exceptional 4-5s	31	\$7,110	473	30.50	9.42	.72	3.78	15.3	12.0
Poor, Deficient, or Adequate (1-2-3s)	31	\$7,093	482	25.99	10.02	1.01	2.96	14.9	11.7
Special Population Differences				-4.51	.60	.29	-.82		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				-1.13	.60	.07	-.21	Total -.66	
Discount Per Pup. Exp.	1+.0066	1.0066	1.0066 * \$7,093	Equals \$7,140	\$7,140 is 0.42% more than \$7,110	No Increase			

## **High School Needs Assessment: Good or Exceptional (4-5s) vs. Poor, Deficient or Adequate (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
Good or Exceptional 4-5s	13	\$9,316	252	36.06	12.23	1.68	2.93	11.8	9.2
Poor, Deficient, or Adequate (1-2-3s)	13	\$8,384	245	27.13	12.60	.22	1.22	11.6	8.8
Special Population Differences				-8.94	.37	-1.46	-1.71		
Discount Rate				.25	1.0	.25	.25		
Discount Rate Calculation				-2.23	.37	-.37	-.43	Total -2.66	
Discount Per Pup. Exp.	1+.0266	1.0266 * \$8,384	1.0266	1.0266 * \$8,384	Equals \$8,607	\$8,607 is 8.2% less than \$9,316	8.2%* \$1.2 Billion	\$102 Million Increase	

The results of the previous two tables differ significantly, with results showing no increase required to over \$100. It must be noted that the small sample size for the high school analysis (13) makes the validity of the finding questionable.

### **Summary**

As these data have shown, expenditure levels for successful and non-successful schools vary widely depending on which performance measure is used. While it is certainly valuable to have a wide variety of performance measures, it must be noted that the results on the norm-referenced test may well provide the most valid measure of a quality education. Specifically, the improved performance on the norm-referenced test allowed a three-year analysis and the absolute performance measure compares Montana students to students across the country and does not have the limitations of the newly implemented MontCas. While R.C. Wood & Associates believes the successful school and school district analysis provides valuable information on the costs associated with a quality education, it must be noted that the approach has limitations like all methodologies currently used to shed light on the complex issue of education adequacy. Therefore, it is important to view the successful school analyses as one tool that should be used in tandem with other methodologies within our study in order to address a quality education in the most thorough and thoughtful manner.

<b>Successful Schools</b>	<b>Projected Additional Cost</b>
Schools with at least 60 % of Students Scoring Proficient/Advanced on Reading & Math Sections on MontCas	\$ 14.9 Million
Schools with at least 75 % of Students Scoring Proficient/Advanced on Reading & Math Sections on MontCas.	5.3 \$ Million
Required Increase in Spending Based on School Size	\$ 7.9 Million-14.4 Million
Schools that Moved 10 % of Student Population into Proficient/Advanced Categories on Five Sections of Norm Referenced Test	\$ 14.7 Million
Schools that Moved 10 % of Student Population into Proficient/Advanced Categories on Three Sections of Norm Referenced Test	\$ 16.8 Million
Schools with 75 % of Students Scoring Proficient/ Advanced on all Sections of Norm Reference Test	3 \$ 4.9 Million
School Districts Fully Accredited Compared to Those That are Not	\$ 2.0 Million
Graduation Rates: 90 Percent+ vs. <90 Percent Sample Schools	\$ 23.2 Million
<b>Total Successful Schools Methodology (no negatives applied)</b>	<b>\$ 96.2 Million</b>
High School Needs Assessment: Good or Exceptional (4-5s) vs. Poor, Deficient or Adequate (123s) English, Math, Science & Social Studies (Sample Groups)	\$ 102 Million
<b>Total Needs Assessment Successful Schools Methodology</b>	<b>\$ 102 Million</b>

## **Summary of Projected Costs of the Various Selected Methodologies**

<b>Evidenced Based Methodology</b>	<b>Projected Additional Costs</b>
Pre School	\$ 5 Million Pilot
School Size	Not applicable
Class Size	\$ 5 Million Pilot
Principal for Every School	Not applicable
Student Support/Family Outreach	\$ 5 Million Pilot
Professional Development	\$ 3.6 Million
Technology/Facilities	\$2 Million (part of facilities study)
Trained Teachers	Young & Stoddard Report
<b>Total</b>	<b>\$ 20.6 Million</b>

<b>Needs Assessment &amp; Statistical Analysis</b>	<b>Projected Additional Costs</b>
Accreditation Standards	None
Special Education Needs	None
At Risk	
Achievement Gap	\$ 5.1 Million Pilot
Gifted & Talented	\$ 50,000
Indian Education for All	\$ 16.095,570
Recruit/Hire Retain Qualified Teachers	Young & Stoddard Study
Facilities	\$ 2 Million Study to determine Need
Transportation	\$ 7, 223,455 1 <sup>st</sup> year
Assessment	\$ 3,891,320 Annual
<b>Total</b>	<b>\$ 34,360,345</b>

<b>Professional Judgment Regarding Indian Education</b>	<b>Projected Additional Costs</b>
School and Community Perspective	\$5.1 Projected part of Closing the Achievement Gap Pilot Program
Systemic Renewal	Achievement Gap Pilot Program
School-Community Collaboration	Achievement Gap Pilot Program
Safe Learning Environments	Achievement Gap Pilot Program
Early Interventions	\$ 5.0 Million part of Early Intervention Pilot
Family Engagement	Early Intervention Pilot
Early Childhood Education	Early Intervention Pilot
Early Literacy Development	Early Intervention Pilot
Basic Core Strategies	Early Intervention Pilot
Mentoring/Tutoring	Early Intervention Pilot
Service-Learning—	Early Intervention Pilot
Alternative Schooling	Early Intervention Pilot
After-School Opportunities	Early Intervention Pilot
Making the Most of Instruction	Early Intervention Pilot
Active Learning	Early Intervention Pilot
Educational Technology	\$ 2 Million part of facility study
Individualized Instruction	Early Intervention Pilot
Career and Technical Education (CTE)—	Achievement Gap Pilot Program
Professional Development days	\$ 3.6 Million part of state-wide program
▪ Student/Teacher ratio—	Achievement Gap Pilot Program
▪ Support staff—	Young & Stoddard Report
▪ Stable workforce/increase	Young & Stoddard Report
<b>Total</b>	<b>\$ 15.7 Million</b>

<b>Professional Judgment Analysis</b>	<b>Projected Additional Cost</b>
Elementary Schools	\$597,941,835
Middle Schools	\$263,708,617
High Schools	\$418,427,956
Elementary School Students At-Risk	\$37,225,661
Middle School Students At-Risk	\$20,012,847
High School Students At-Risk	\$32,078,750
Extended Day and Summer Programs for Non-Proficient MontCas Students	\$13,823,719
Gifted & Talented Programs	\$9,008,794
Pre-School Programs	\$1,785,861
American Indian School Expenditures	\$134,903,867
<b>Total Required Funding</b>	<b>\$1,528,917,907</b>
Estimated Funding for FY06	\$1,200,000,000
<b>Required Increase in Funding</b>	<b>\$328,917,906</b>

<b>Successful Schools</b>	<b>Projected Additional Cost</b>
Schools with at least 60 % of Students Scoring Proficient/Advanced on Reading & Math Sections on MontCas	\$ 14.9 Million
Schools with at least 75 % of Students Scoring Proficient/Advanced on Reading & Math Sections on MontCas.	5.4 \$ Million
Required Increase in Spending Based on School Size	\$ 7.9 Million-14.4 Million
Schools that Moved 10 % of Student Population into Proficient/Advanced Categories on Five Sections of Norm Referenced Test	\$ 14.7 Million
Schools that Moved 10 % of Student Population into Proficient/Advanced Categories on Three Sections of Norm Referenced Test	\$ 16.8 Million
Schools with 75 % of Students Scoring Proficient/ Advanced on all Sections of Norm Reference Test	3 \$ 4.9 Million
School Districts Fully Accredited Compared to Those That are Not	\$ 2.0 Million
Graduation Rates: 90 Percent+ vs. <90 Percent Sample Schools	\$ 23.2 Million
<b>Total Successful Schools Methodology (no negatives applied)</b>	<b>\$ 96.2 Million</b>
High School Needs Assessment: Good or Exceptional (4-5s) vs. Poor, Deficient or Adequate (123s) English, Math, Science & Social Studies (Sample Groups)	\$ 102 Million
<b>Total Needs Assessment Successful Schools Methodology</b>	<b>\$ 102 Million</b>

# **Design of a New Education Finance Distribution Formula**

The State of Montana Request for Proposals called for the assistance in designing a new education finance distribution formula. In the various presentations in Montana as well as this final report, the research team has presented its overall thoughts in this regard. No attempt has been made, to this point, to actually conduct simulations. No attempt has been made, to this point, of conducting an analysis on the actual costs to the state and to the school districts. The various approaches as discussed within this study assist in determining what is called the base student allocation found within this formula distribution discussion.

It is critical to understand that the state legislature has defined what a quality education is and has identified the components of a quality education. The legislature will decide the new state aid distribution formula and the appropriate means of allocating state and local moneys for the support of public elementary and secondary education. Under no circumstances should one view the implementation of SB 152 to be the total fiscal responsibility of the state. To do so, would be to preserve small, not isolated school districts, and to preserve the inequities of the present system. In fact, to do so would merely mean that the wealthiest school districts of the state would continue to be subsidized by the state and continue to offer vastly superior programs as compared to the poorest school districts of the state. Thus, this conceptual formula funds the standards of and brings to the state a high degree of fiscal equity.

## **Montana Formula Distribution Constructs**

It is recommended that small and isolated school districts be grouped into a Tier 1 cluster in which school districts receive funding based on a Basic Classroom Unit (BCU). These small and isolated school districts would receive an amount per classroom regardless of district enrollment below a certain enrollment number.

It must be stressed, throughout this discussion of the state education finance distribution formula that the term small and isolated school districts is a critical component and does not mean simply small school districts.

Further, there would be:

- Tier 1A Districts = Elementary Districts < X enrollment
- Tier 1B Districts = Secondary Districts < X enrollment
- Tier 1C Districts = k-12 Districts < X enrollment

The BCU would then account for sparsity adjustment in that it would apply to those districts that are small and isolated.

The state would determine the total spending of each student by beginning with a Base Student Allocation (BSA), the BSA calculated based on these data within this report.

The same consideration should apply to all of the accreditation standards and components of SB152. That is, the formula should be such that it adequately funds, via the BSA, each component of SB152 and

so identifies appropriate funding amounts. Doing so provides the state with the needed rationale for its determination of funding amounts and purposes for funding.

Non-Basic Classroom Unit Districts would then constitute a classification of Tier II Districts. Again, Tier II districts would differentiated as II-A, II-B, II-C Classifications just as Tier I districts were with enrollment determining the differential classifications. Above the Tier I predetermined enrollment figure the school districts would become Tier II school districts based on organizational structure making them Tier II, A B, or C school districts

At this point the districts full time equivalent enrollments would be multiplied by a program weight representing the costs of delivering a quality education as identified in SB 152. Program Weights could include e.g.

- Grade Levels,
- Special Education,
- English Secondary Languages Speakers, and
- Poverty Base Student Allocations

This results in a Weighted Full Time Equivalent Student (WFTE) in actual attendance. Attendance issues, and how to actually count students as to average daily attendance, average daily membership, or some combination of these would be determined by the legislature. The A&B construct could be eliminated or retained in this regard.

A very important note should be added to this discussion. In that this is a student-weighted formula the school districts must be required by statute to spend moneys for which they derive funds from the state and local revenue sources. Thus, e.g., 75 percent of the funds appropriated must be expended on those students and programs for which the moneys were received. State audit compliance would be the mechanism to ascertain compliance.

WFTE is then multiplied by the BSA. The BSA should be recalculated at least every other year so as to keep the overall education finance distribution formula current in terms of meeting the demands of meeting the state standards.

The BSA is then multiplied by a Teacher Cost Index (TCI). The TCI has yet to be determined is outside the confines of this study. The Young and Stoddard Report from Montana State University would be, presumably, the basis of forming a TCI for the state. The TCI should be updated periodically.

While the TCI would be initially based on the Young and Stoddard Report several variations are available to the state legislature. One variation would be to limit the application of the TCI to those districts that are small and isolated. Or, at the opposite end of the policy scale, would be the establishment of a statewide salary schedule either as a minimalist scale or a salary scale that would be more aggressive and apply to all school districts. The application to all districts would essentially move the discussion of teacher salaries to the state legislative level, which would have advantages and disadvantages as a public policy. It is recommended that at least in the initial stages of the new formula, the TCI apply to small and isolated districts.

School districts that are grouped as Tier II districts, whether A, B, & C school districts, would be eligible to receive a Declining Enrollment Supplement (DES) 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 districts. The DES would not apply to Tier I school districts.

Overall, the fund structure under the new education finance distributional formula would consist of certain funds e.g.,

- 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)

The state education finance distribution formula to this point indicates the total spending for each school district. From this total expenditure, the Required Local Effort would be subtracted (RLE).

Each school district's RLE would be 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. Small additional levies may be allowed for a variety of purposes, which would be voted on by the local electorate.

Additionally, it would be reasonable to allow the total spending of each district to increase by 1 percent per academic year. In this manner, modest inflation, salary scale movements, and other increased costs could be addressed.

All education finance distribution formulas have certain 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. The total spending level is driven by the state legislatively definitions and the implementation of SB 152.

The state should ensure that the new education finance distribution does not factor in federal funds that are intended to *supplement* basic educational services and avoid using federal funds to *supplant* its own funding of a quality education under SB152.

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 examined as to the alternatives available to the state.

Overall, this examination along with the deliberations of the state legislature offer the state of Montana a window of opportunity in reforming public education and building quality education for every child within the state.

## **Appendix A**

### **Riverside School Statement of Needs**

Hi Dr. Farrier,

Jilyn Oliveira called me and requested a list of funding concerns with regards to the education program we operate here. Our school, and the school at the boys' facility, Pine Hills Youth Correctional Facility in Miles City, are accredited through OPI as middle/high schools. As such, we are expected to comply with all state/federal education statutes and mandates. However, neither facility receives any state/county education funding for the children adjudicated to our programs. Our education budgets are funded out of our general fund budget, and some Title grants. We also qualify for School Foods reimbursements.

The most challenging federal requirement both facilities are currently dealing with is the No Child Left Behind Act. Because the children at the facilities come and go throughout the year, and there may be only one or two at the required grade level during mandatory testing time, and the next testing time does not include the same student, the submitted test scores do not reflect any real accurate data. However, the scores are entered into a national database that compares our facilities with regular public high schools, and result in, at least for Riverside, a needs assessment showing inadequate Annual Yearly Progress. As a result, we are being required to spend a great deal of man-hours and resources to sort through this with OPI. This includes an ongoing education process for various people in various departments of OPI, and trying to sort through the copious amount of paperwork we receive from OPI with requirements that don't fit our setting.

If you have any more questions, or would like more information, please feel free to give me a call.

*Cindy McKenzie, MSW  
Superintendent  
Riverside Youth Correctional Facility  
3700 Hwy 69  
P.O. Box 88  
Boulder, MT 59632  
406-225-4501*

From an email of 8/11/05

Montana School for the Deaf and Blind



## Needs Assessment for MSDB Quality Education Programs and Services

Prepared for the

Quality Schools Interim Committee

Helena, Montana  
July 12, 2005

*Education, Communication, and  
Independence for Life*



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July 6, 2005

Quality Schools Interim Committee  
Legislative Services Division  
PO Box 201706  
Helena, MT 59620-1706

Dear Committee Member:

As your committee goes about the business of devising a new system for funding education, I ask that you give serious consideration to the unique factors that define a basic quality education for Montana's sensory impaired children. Fundamental to any child's education is the need for him or her to have access to the curriculum through instruction provided in his or her primary mode of communication. Every item identified in the attached needs assessment defines a resource critical to the provisions of a basic education with the elements that embody quality instruction. MSDB has a statutory obligation to ensure that all of Montana's deaf and blind children, ages zero through twenty-one, have access to educational opportunities commensurate with their hearing and sighted peers. The identified needs support quality educational services regardless of where deaf or blind children are being served.

Three categories of needs have been defined in the assessment: a personal services budget that is sufficient to recruit and retain qualified teachers of the deaf or blind and provides salaries that are equitable to the local and regional market; funds for components of a basic education program but have never been provided for in the school's education operating budget; and expansion of the school's outreach program providing for sufficient, quality, early intervention services that ensure deaf and blind preschoolers are ready to learn to read and write when they enter school and that sensory impaired children, educated in the local districts, have access to the curriculum and teachers with the skills and knowledge necessary to provide instruction in their primary mode of communication. These identified needs constitute the expectations of a basic quality education for our non-disabled students. Should we expect less for our deaf or blind children?

To establish quality education services and improved learning outcomes for our deaf and blind children enabling them to maximize their educational opportunities and become independent and self-sustaining members of their communities, the State must:

- Ensure that MSDB's teachers and support staff receive pay that is equal to that of their peers in the region.

- Provide funds for professional development activities, library support and textbooks.
- Provide funds to maintain the unique summer programs of the school that support the educational needs of students being educated in the local districts.
- Provide funds needed to support MSDB's process for continuous school improvement.
- Provide adequate and quality early educational intervention through the school's home-based, family advisor program.
- Provide students, parents and local district personnel with greater access to qualified teachers of the deaf and blind through expanded, regionally based, outreach services that include the expertise of an educational audiologist trained to provide technical assistance with educational issues related to the emerging medical technology of cochlear implants.

On behalf of the school, I appreciate the opportunity to present this information and look forward to a discussion about these needs, at some point during the study process, with the interim committee. If you have any immediate questions, you are more than welcome to contact me at the school.

Sincerely,

Steve Gettel  
Superintendent

*Education, Communication, and  
Independence for Life*

## Needs Assessment

### 1. \$170,625 – Education Program – Salary improvements for Licensed Professional Staff

This item addresses the issue of difficulty in recruitment and retention of highly qualified, licensed professional staff and to rectify inequities in salaries paid to licensed professional staff who works for the MSDB. An appropriation of \$150,000 was made in HB 2 to close the gap between salaries paid by MSDB and the Great Falls Public Schools. Even with this extra appropriation, some professional staff will be paid more than \$8,000 less than their peers for the 2005-06 school year. An additional \$170,625 in funds for personal services would allow MSDB to match these market comparison salaries for the current 34 licensed professional staff along with 3 positions currently vacant and 4 new positions created by HB 438 to expand outreach services for visually impaired students.

20-4-101, MCA and 10.57.201, ARM

### 2. \$30,000 – Education and Student Services Programs – Professional Development Funds

This item addresses the issue of the need for additional funds in these programs' operating budgets to provide for adequate training of staff. The school is at a disadvantage over regular public schools for accessing professional development because the student population are all deaf or blind and there are no training programs in Montana that prepare teachers of the deaf or blind. The school also has a residential staff of 35 that must provide adequate and appropriate care and supervision of deaf and blind students who reside in the cottages. Because these are primarily grade 9 positions, the pool of applicants are usually entry level employees who need significant training in the areas of child development, behavior management and communication via Braille and/or sign language. The school has worked to improve the level of training in the Student Services Program by requiring that, within the first year of employment, all cottage life attendants successfully complete 48 hours of training through the Child Care Workers Certification Program.

### **In-Service Training Hours for FY 04-05**

<b>Education</b>	<b>Hours</b>	<b>Student Services</b>	<b>Hours</b>
Teachers/ Specialists – 34	1326	Cottage Life Attendants - 22	352
Teacher Assistants – 9	252	LPNs - 3	24
Interpreters – 10	308	Counselors - 4	64
		Food Service Workers - 3	16
Secretaries – 2	24	Receptionist - 1	16
Conferences	304		64
<b>Total</b>	<b>2214</b>		<b>536</b>
2750 hours for all program areas			

\$30,000 / 2750 = \$10.90/hour. \$30,000 is 0.59 % of the total budget.

10.55.714, ARM

### 3. \$19,000 Education Program – Library Support

This item provides for the purchase of library books needed to maintain the recency of the collection to meet accreditation standards. Currently approximately 80% of the schools social sciences, natural sciences/mathematics, technology and general reference materials are older than 5 years. The library is

the heart of our school and the basis for our reading and literacy programs, essential to student success. This item will also pay annual fees to maintain the connection to the Great Falls Public library which supports the Schools automated library system and web-based information system essential for students and staff to have access to all types of reading and research materials.

\$15,000 – Purchase of library books and periodical subscriptions  
4,000 – Fees to maintain database services and software support

20-7-202, MCA, and 10.55.709, ARM

#### 4. \$25,000 Education Program – Textbook Replacement

This item addressees the need for the School to replace textbooks and instructional materials according to the schedules outlined in School policy and the School's 5 Year Comprehensive Education Plan and as required for curriculum renewal as directed in the Administrative Rules of Montana. In recent years the cost for replacing a core curriculum series for the student population at either the elementary or high school level has averaged \$25,000.

Current copyright dates for core curriculum tests are:

Science – elementary 2000; high school 2001  
Math – elementary 1999; high school 1986-94  
Social Studies – elementary 1997; high school 1988-2003  
English – elementary 1986-95; high school 1994  
Reading – elementary 2005; high school 1990-92

20-7-602, MCA, 10.55.601 and 10.55.603, ARM

#### 5. \$38,000 – Education Program – Summer Programs

This item will provide funds support weeklong summer camps for both deaf and the blind preteens and adolescents as well as Family Learning Weekends for the families of deaf and blind children served by local school districts across the state. The one-week summer programs at MSDB emphasizes skill building in the areas of sign, oral and written communication, social development and assistive technology for deaf/hard of hearing students and orientation and mobility, the use of assistive technology and the development of independent living skills for the blind students. These camps also provide preteen and adolescent students an opportunity to meet and develop peer relationships with other deaf and blind students from across the state. Learning Weekends for parents and public school personnel of students served in local districts provide training and opportunities for networking among parents and professionals. The total number of participants in MSDB's summer programs in FY05 is anticipated to be 316, which is an increase of more than 165% since FY2001. Total costs for the four programs are \$66,000 per year. Funding sources include \$28,000 from a Part B discretionary allocation through the Office of Public Instruction and \$20,000 in donated funds through the MSDB Foundation. The total unfunded state obligation is \$38,000.

20-8-102, MCA and 10.61.103, ARM

#### 6. \$ 9,000 Education Program – Research, School Improvement, Accreditation of Programs

This item will provide the funds necessary to support work required by the No Child Left Behind Act through the researched based school improvement initiative including fees paid to maintain membership in our curriculum cooperative and to pay annual fees to maintain membership with the national

associations that accredit our schools' very unique education programs. Participation in the accreditation process through outside associations is critical for 3 primary reasons. First, current state rules have no mechanism for accrediting MSDB's education program. Second, the unique communication and educational needs of MSDB's students require involvement of organizations that have an understanding of and a perspective for continuous program improvement through the implementation of standards, specifically developed to meet these needs. And finally, accreditation activities provide an additional measure of accountability and quality which goes beyond the requirements implemented through Montana's required 5 year comprehensive education plan and the NCLB. Again, this is critical because interaction with these accrediting organizations is the only means for evaluating MSDB's other mandated activities including, the residential and outreach programs.

<b>Activity/Organization</b>	<b>Annual Dues</b>	<b>Travel Study</b>	<b>Research</b>
National Accreditation Council for Agencies Serving People with Blindness and Visual Impairment	\$1,650	\$1,500	
Conference of Educational Administrators of Schools and Programs for the Deaf	450	2,500	
Northwest Association of Accredited Schools	400	1,000	
NCLB			\$1,500
<b>Total</b>	<b>\$2,500</b>	<b>\$5,000</b>	<b>\$1,500</b>

10.55.601, 10.55.602, and 10.55.603, ARM

#### 7. \$47,100 – Education Program – Contracted Services for the Family Advisor Program

The family advisor program contracts with over 25 individuals across the state to implement home-based early intervention services utilizing individualized family service plans and bi-monthly home visits. This item addresses the need for funds to pay family advisors, who are contracted to provide home-based, early intervention services to families of deaf and visually impaired infants and toddlers. These services help parents address the unique learning needs posed by sensory impairment for infants and toddlers including speech and language development, spatial and concept development and mobility skills. Work on prescribed goals ensures that family advisor activities meet the needs of the child in acquiring the appropriate developmental and communication skills necessary to successfully access school based programs. An effective early intervention program also requires that family advisors have the requisite skills and knowledge needed to deliver high quality services. This item includes funds for program curriculum and training for service providers.

The reading level of deaf high school graduates averages no better than the 4<sup>th</sup> grade nationally, a statistic that has not changed since the issue of literacy and deafness received its first serious attention in the 1960s (Paul, P.V. (1998). Literacy and deafness: The development of reading, writing, and literate thought. Boston: Allyn & Bacon). Until the past 5 years, another unchanged statistic has been the age at which a child's hearing loss is detected and the age at which educational interventions begin. The initiative for a comprehensive early intervention program for deaf infants and toddlers is substantiated in recent research.

The Importance of Early Educationally based Intervention Services Early identification of sensory impaired children is critical to the long-term educational success of sensory impaired children. This is particularly true with children who have a hearing impairment or deafness, the invisible disability. Children with profound deafness tend to be identified between 12 and 18 months of age. Until the

implementation of the Universal Newborn Hearing Screening program in Montana in 2002, children with severe or moderate deafness, which is still a major disability when left without intervention, were typically not identified until they were between the ages of 2 and 4.

However, early identification without appropriate early intervention services will do nothing to ensure that hearing impaired children develop language and literacy at rates commensurate with their hearing peers. Through a longitudinal study by Dr. Christine Yoshinaga-Itano, Department of Speech, Language and Hearing Sciences at the University of Colorado, Boulder, findings show that with appropriate early intervention during the first six months of life, 90% of the 350 deaf and hard of hearing infants and toddlers developed vocabulary skills within the range of normal development in the first three years of life. This contrasts with children who were later identified as deaf or hard of hearing (after 6 months) where only 25% had vocabulary development within the normal range. The result is that these children have vocabularies similar to the bottom 10% of children with normal language development.

"The average age of identification of hearing loss in infants remains between 18 months and 2.5 years" (Yoshinaga-Itano and Apuzzo, 1998). Researchers have found that significant language delays are a consequence of this condition. Further research has been conducted looking at the significance of early identification and intervention for children who are deaf or hard of hearing. Several studies have investigated the relationship between early identification and intervention of deaf and hard of hearing children and language development.

In a study consisting of 112 five year olds with hearing loss, children were enrolled in a comprehensive intervention program. Mary Pat Moeller found that there was a significant correlation between age of identification and intervention and language outcomes at five years of age. Children identified and receiving intervention early (by 11 months) showed better language skills than those identified and enrolled in an intervention program later. "Regardless of the degree of hearing loss, children who were identified and received intervention earlier achieved scores on the measures used that approximated scores of their hearing peers" (Moeller, 2000).

In another study by Christine Yoshinaga-Itano and Mah-Rya L. Apuzzo, children with hearing losses identified by 6 months of age had significantly higher language quotients than those whose hearing losses were identified after 6 months of age. "The language difference between the two age-of-identification groups was so large that the mean performance of the earlier-identified children was almost a full standard deviation higher than the mean performance of later-identified children" (Yoshinaga-Itano et al., 1998).

Comprehensive, high quality, home-based early intervention services are the key to improving literacy, overall academic performance, and employment potential for Montana's deaf and hard of hearing children.

<b>Number of Infant/Toddlers Served</b>	<b>Contracted Services Bi-monthly</b>	<b>Training</b>	<b>Supplies/Materials</b>
35	24 @ \$40/visit	25 FA @ \$250/FA	\$200/Child
<b>Total</b>	<b>\$33,600</b>	<b>\$6,500</b>	<b>\$7,000</b>

8. \$ 386,778 – Education Program – 4.62 FTE for 6 additional Outreach Consultants

The Montana School for the Deaf and the Blind has the statutory authority and responsibility to, "serve as a consultative resource for parents or hearing impaired and visually impaired children not yet enrolled in an educational program and for public schools of the state where hearing impaired or visually impaired children are enrolled. The school upon request shall ensure that services and programs for hearing impaired or visually impaired children are appropriate and sufficient. The school may provide assistance to the program that the school determines is needed." MCA 20-8-101.

The school requests FTE and funding for 6 additional Outreach consultants to provide consultation, technical assistance and focused direct educational services to students served in the local districts as well as in the homes of children, not yet enrolled in school based programs. This item will expand MSDB's outreach program to optimize educational services to children, parents and school districts and related agencies by expanding outreach staff with one or two specialists for each of the disability categories of deafness and blindness for each of five regions across the state. This efficient and cost effective means of providing regionally-based consultative and educational services will assure that all Family Service Plan and Individual Education Plan teams, for sensory impaired children, are appropriately staffed by qualified personnel knowledgeable about the unique needs and issues that effect the educational, social and emotional development of deaf and blind children. These additional consultants will ensure that an appropriate level of technical assistance and consultation services are available to families, school districts, medical and community based service providers. This level of staff will also be available to provide weekly direct educational services identified in Individual Education Plans for students served in rural districts where highly qualified teachers can not be recruited to instruct blind or deaf students in the focused curricular areas of Braille, orientation and mobility and written language and reading through signed communication.

This proposal supports MSDB's Strategic Plan 2000-2005:

Goal 4.1.1 - Outreach - To expand outreach services to optimize services to children, parents and school districts and related agencies by developing interagency agreements to share information and services and by developing a current accurate count (registry) of sensory-impaired children in Montana and by providing education and training to community based service providers and medical professionals who serve sensory impaired children and,

Goal 4.1.2 - Outreach - To expand outreach services to optimize home and classroom based educational services to preschool and school age children by expanding outreach staff providing a minimum of one specialist for every 20 children with identified disabilities of deafness or blindness, served in the local communities/school districts, and,

Goal 4.1.4 - Outreach - To assure that all Family Service Plan and Individual Education Plan teams for sensory impaired infants, toddlers and children are appropriately staffed by qualified personnel knowledgeable about the unique needs and issues that effect the educational, social and emotional development of deaf and blind children by making training, technical assistance and consultation services available through the expertise of MSDB's outreach consultants.

MSDB is charged with the responsibility of providing technical assistance through its outreach program to parents, school districts and professionals who serve the state's deaf and blind children. The vast majority of Montana's school districts do not have the technical expertise and lack the resources necessary to meet the program needs of the sensory impaired students who attend them. Only five

districts across the state employ teachers with additional training in the fields of deafness or blindness. The current demand exceeds the school's ability to provide these services in a manner that adequately or appropriately meets the need.

The expansion of MSDB's outreach services is designed to meet the following needs, which have been identified by outreach staff and are supported by documentation in the description and justification portion of this proposal.

1. Under the Individuals with Disabilities Education Act parents have the right to choose their local school district as the placement option for their deaf or blind child. With the present resources available, MSDB's outreach staff can not meet the request for services brought to them by parents and the public schools.

This proposal provides for an expanded outreach staff, which can adequately meet the requested need for technical assistance and consultation services. This proposal also provides for the direct instruction of sensory impaired by qualified teachers of the deaf or blind through a regional model of itinerant education services.

2. Parents, public school personnel, community based service providers and the medical community lacks the knowledge to make informed and sound choices within the first few months of a sensory impaired child's life, which critically impacts the benefits of future educational opportunities.

This proposal provides resources and highly qualified staff who can analyze and facilitate the training needs of the parents as well as the teachers, specialists and home trainers who provide early intervention and school based services to the children and their families.

The Current Situation During the 2004-05 school year MSDB's 5 Outreach consultants served 305 children, ages birth through 21. Since FY 2001 the number of children served through this program has increased by 24%. Even with the passage of HB 468 and the addition of 4 consultants for the blind, the average caseload for the seven consultants serving with visually impaired child is 25. The average caseload for the 2 consultants serving with deaf children is 65.

Regional Comparisons Regionalized itinerant teacher/consultant models have been in place in each of the western states of Oregon, Idaho, Utah and Arizona for more than 25 years. Though they differ somewhat in their organizational structure, in every comparison Montana's outreach consultants have significantly higher caseloads. Consultants for the deaf, serving education service districts in Oregon, have average caseloads of 16 students. In Idaho, which utilizes a system of primarily consultative services similar to Montana's, the average caseload for outreach staff for both the deaf and the blind is 26. In Utah, where more than half of the students are served through direct instruction in public schools, the average caseload is less than 8. In Arizona, which utilizes service districts, the average caseload is 9 students.

The Need This proposal addresses critical issues in two general areas providing training, education and consultative services to the parents and professionals who serve Montana's deaf and blind children and by providing critical instruction in core curriculum, orientation and mobility and communication and literacy skill development that can only be effectively provided by qualified teachers of the deaf or blind. In ensuring a quality education for its sensory impaired children, Montana must provide appropriate educational options for deaf and blind children, both in home based and school based

programs. In a rural state like Montana, this necessitates extensive community based education for the numerous professionals who provide child find, early intervention, direct instruction, support services, and technical assistance to educational programs. Along with educational professionals in the school districts, these professionals include neonatal and pediatric doctors and nurses, audiologists, speech and physical therapists, regional Part C providers, Indian Health Services, the Department of Public Health and Human Service and county health departments, and public schools.

School Based Programs for the Deaf The critical needs for deaf and hearing-impaired students are communication skills, access to a peer group that uses similar communication models, opportunity to develop a cultural identity, and support for transitional programming including independent living and work attainment skills. Some IEP related issues include access to the curriculum through sign language and qualified sign language interpreters, and support services provided by professionals with training specific to the unique need of deaf and hard-of-hearing children.

In an analysis of caseloads during the 2002-03 school year, MSDB's 2 outreach consultants for the deaf reported that 72% of students did not have a trained teacher of the deaf who either teaches or serves as a case manager. Regarding the ability to provide technical assistance, they report that they are not able to meet the contact needs of 70% of the students and school districts they serve because the volume of requests, and long distances that have to be traveled to reach students. They rarely were able to schedule regular visits or to meet requests by teachers for site evaluations and IEP meetings.

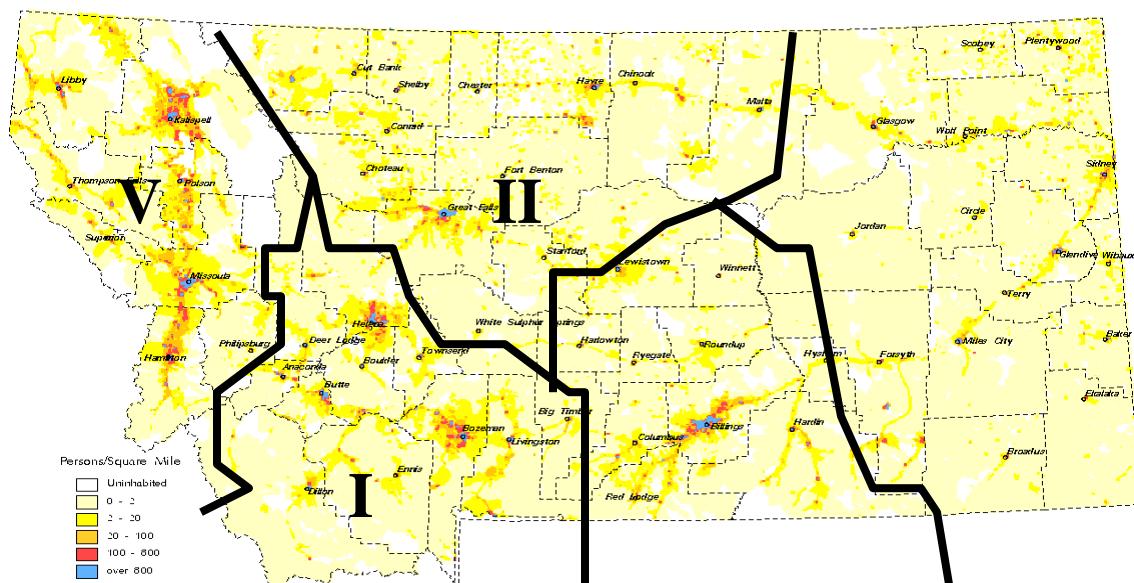
School Based Programs for the Blind The critical needs for blind and visually impaired students are Braille, orientation and mobility instruction, and support for transitional programming including independent living and work attainment skills. The IEP related issues include access to the curriculum through modification of materials, and support services provided by professionals with training specific to the unique need of blind and visually impaired children.

In an analysis of caseloads during the 2002-03 school year, MSDB's 3 outreach consultants for the blind reported that 85% of students had no one on their IEP team with training in the area of blind education and only 14% received instruction in their school by a trained teacher of the blind. Regarding the area of technical assistance, MSDB outreach consultants reported that 60% are not seen often enough. They reported that 60% of consultation requests went unmet again because of the sheer volume of the requests and the travel time involved to reach students. There is a severe shortage of trained teachers of the blind and orientation and mobility instructors in the region and particularly in Montana. This is evidenced by the fact that only 25% of all visually impaired students served in public schools were reported to be receiving orientation and mobility instruction.

Federal and state regulations require that all students who are deaf/hearing impaired or blind/visually impaired must have a representative sitting on the Child Study Team when the decision for eligibility for special services is determined. In 2003 fewer than 19% of Montana's sensory impaired students served in public school districts, had access to teachers trained in their specific disability areas and who could modify curriculum, provide instruction in the communication modality appropriate for the educational needs of the individual child, evaluate progress toward IEP goals and make recommendations, based on experience or training related to the specific disability.

The Solution By increasing MSDB's outreach consultants from 9 (FY06) to 15, the average caseload will drop from 27 to slightly less than 21 for the VI program and from 58 to just under 20 for the HI program. With increased early identification of deaf infants through the Universal Newborn Hearing

Screening program and an increase in the number of VI outreach consultants in the 2005-06 school year, the school expects to see an increase in the number of infants and children referred to the outreach program over the next 2 years. By providing outreach consultants with caseloads of 20 students, they will have significantly more time for increased student contact, technical assistance to school personnel, and consultation with parents and community based service providers. As a result, students will have improved learning outcomes through greater access to the skills and knowledge of highly qualified teachers.



Region	HI Students	Consultants	VI Students	Consultants
I	16/0	1	22	1
II	5/3	0	31	2
III	15/4	1	47	2
IV	31/10	2	42	2
V	21/11	2	46	2
<b>Total</b>	<b>88/28</b>	<b>6</b>	<b>188</b>	<b>9</b>

#### Budget for each consultant

<b>Outreach Consultants</b>	<b>FY07</b>
Personal Service/position:	.77 FTE
Salary – MA + 10 yrs	\$ 37630
Insurance	6,102
Benefits	6,413
<b>Total</b>	<b>\$ 50,163</b>
Operating Expenses:	
Per Diem	\$ 1,500
Supplies/Postage	1,200
Office Equipment	3,500
Lease Motor Pool Car	5,500
Phone/Internet	2,600

<b>Total</b>	\$	14,300
<b>Total Cost</b>	\$	64,463

20-8-102, MCA and 10.61.102, ARM

#### 9. \$ 77,301 Education Program –1.0 FTE for an Educational Audiologist

This item will provide for statewide coordination of early identification and educationally based audiological intervention services for infants, toddlers and school age children who have been diagnosed with a hearing loss. The Universal Newborn Infant Hearing Screening (DPHHS), Hearing Conservation (OPI) program and MSDB staff audiologist screen and identify children with hearing loss or deafness. Only MSDB has the responsibility to provide educationally related audiological services to hearing impaired children from birth. During the 2004-05 school year MSDB's staff audiologist conducted 272 evaluations, which is an increase of 156% over the 2000-01 school year. The increased need for the services of the educational audiologist is in part the result of the success of the Universal Newborn Hearing Screening program and the increase in the number of children, as young as 12 month of age, receiving cochlear implants.

As of January 2005, MSDB's registry of hearing impaired children included 21 toddlers and school age children with cochlear implants of whom 8 had received implants within the previous year. In spite of the advances in this technology and the earlier age of surgery, the cochlear implant does not restore the hearing of a child with hearing loss. Cochlear implants require regular "mapping" or adjustments to maintain the accuracy of their output as well as very specific aural rehabilitation programs for children to learn how to effectively utilize the stimuli produced by the implant. A major concern to MSDB is that there is no resource available to parents, Part C, home-based intervention service providers, or public school teachers or speech/language therapists to provide consultation or training to ensure the successful use of cochlear implants by children in the educational setting.

The addition of an educational audiologist, with specific training in the area of cochlear implant aural rehabilitation, is essential to MSDB's outreach program if the school is going to meet its obligation to provide high quality consultation and technical assistance for this rapidly growing area of medical intervention. The cochlear implant holds tremendous promise as an assistive technology allowing deaf and hard of hearing children greater access to oral communication and as a result, access to the curriculum. The addition of this position to the outreach program is a key component to ensuring that these children have the full use and advantage of this technology.

<b>Audiologist</b>	<b>FY07</b>
Personal Services:	1.00 FTE
Salary - MA+45, 5 yrs	\$ 48,069
Insurance	6,102
Benefits	8,830
<b>Total</b>	<b>\$ 63,001</b>
Operating Expenses:	
Per Diem	\$ 1,500
Supplies/Postage	1,200
Office Equipment	3,500
Lease Motor Pool Car	5,500

<b>Phone/Internet</b>	2,600
<b>Total</b>	\$ 14,300
<b>Total Cost</b>	\$ 77,301

20-8-102, MCA and 10.61.102, ARM

**Summary of funds required to meet needs identified  
in the assessment report for MSDB**

<b>Item</b>	<b>Unfunded State Obligation</b>
1	\$ 170,625
2*	30,000
3*	19,000
4	25,000
5*	38,000
6*	9,000
7*	47,100
8	386,778
9	77,301
<b>Total</b>	<b>\$ 798,804</b>

\* These items are funded in part or totally with donated monies through the MSDB Foundation.

## **Appendix B**

### **Observations Regarding the Native American Achievement Gap**

There were 73,595 Montana students who were in 73 schools that failed to make annual yearly progress (AYP) while there were nearly an equal number of students, i.e., 74,521, who were in one of 361 schools that did make AYP. So while 50% of Montana students were in schools failing to make AYP, 81% of the Native Americans, 13,274, were in those schools failing to make AYP and 19%, 3,035, of the Native Americans were in schools making AYP. Their dropout rate was about the same in either group, with a 3% dropout rate in the group failing to make AYP and 4% in the group making AYP.

The Native American enrollment rate and the achieving of AYP in each school district were analyzed using a statistical procedure known as Discriminate Function Analysis. The findings concluded that schools having a Native American enrollment rate of less than 25% had a 95% predictability of making AYP.

However, there are four elementary schools having 67%, 58%, 47%, and 46% Native American enrollments and two high schools having 55% and 53% Native American enrollment all of which met AYP in 2004-05. Future research should begin, in part, with a study of these schools that have been successful. Of those schools making AYP, those with 25% or more Native American enrollment represent seven of the nine geographical regions.

Based upon the schools that were reported, half of the Native Americans are at the lowest category, nearing proficiency, on the state CRT assessment while only 5% are at the highest category, advanced. Not a single school in the state has more Native Americans in the highest two categories than the lowest two categories in both math and reading scores.

In total, there are 3.7 times more Native American students scoring in the bottom half of the assessment scale than in the top half in math scores. Yet, in spite of this disproportionate ratio, there are three schools having more Native American students in the top two categories than the bottom two. The highest of this positive difference is in a larger reservation school having a substantial percentage of Native American students.

Reading scores are a bit stronger, having 2.6 times as many Native American students scoring in the bottom half of the assessment scale than in the top half; however, once again the state has examples of success. There are nine schools having more Native American students in the top half than the bottom half. Two of the three schools having more Native Americans in the top half than the bottom half in mathematics also have more Native Americans in the top half of the reading scores than the bottom. Once again, the school having the most favorable number of Native Americans scoring in the top half relative to the bottom half of the assessment rubric is a reservation school having a substantial number of Native Americans. Based upon the predictive model discussed above, this school had a 95% predictability that it would fail to make AYP; yet the school made AYP.

The following statistical calculations resulted from the analysis of the rate of Native American Enrollment and AYP.

AYP vs. Percent of Indian Enrollment

Yes = made AYP

No = did not make AYP

#### Fisher's Linear Discriminant Function Analysis

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No. of Cases for Group No... 73  
No. of Cases for Group Yes... 361  
No. of Indep. Variables.... 1

Variance of Discr. Func.... 4.668699  
Degrees of Freedom 1..... 1  
Degrees of Freedom 2..... 432  
F Ratio..... 283.48897  
Prob..... <.0001

Discr. Func. for No ... 5.100311  
Discr. Func. for Yes ... .431612  
Midpoint Cutoff..... 2.765961

#### Classification Results

Actual Group	No. of Cases	Predicted Group No	Predicted Group Yes
Group No	73	38	35
		52.05%	47.95%

Actual Group	No. of Cases	Predicted Group No	Predicted Group Yes
Group Yes	361	19	342
		5.26%	94.74%

Percent of Cases Correctly Classified: 87.56%

## **Appendix C**

### **Comments on Assessment Relative to At Risk Students**

#### ***Criterion and Normed Tests***

Assessment is generally one of two forms, one that examines how well a student is performing or achieving based upon an academic standard or criterion. These tests are referred to as criterion referenced tests (CRT). Typically, teacher made tests for classroom use are a form of criterion referenced tests; however, CRTs are often used on a much larger scale such as for statewide testing. The second form of testing compares a student's score not against an academic standard, but against the scores of the other test takers, referred to as norm referenced testing (NRT).

The first method (CRT) tells how well a student is achieving or progressing individually, referred to as a "within" measurement, but says nothing about how well the student is doing relative to peers. The second method (NRT) ranks the student relative to peers, referred to as a "between" measurement, but says nothing definitive regarding individual academic achievement. Each method contributes to the assessment of students, but obviously, misinterpretation problems arise when one test is used for the purpose for which the other form has been developed.

Scores reported as percentiles (Pr), normal curve equivalent (NCE), grade equivalent (GE) and similar indicators represent how well a student is doing relative to other students, but does not reflect upon the student's actual level of achievement. For example, an athlete may take first place in a race, but the ranking does not reveal the actual time in which the athlete ran the race. The athlete may have set a record time or perhaps did very poorly, but the other athletes did even more poorly. The distribution of scores on these assessments essentially never change, there is always a first place and a last place with half of the students scoring above average and half below. Like placing in a track meet, the student may improve rank only at the "expense" of someone previously ranked ahead of the student.

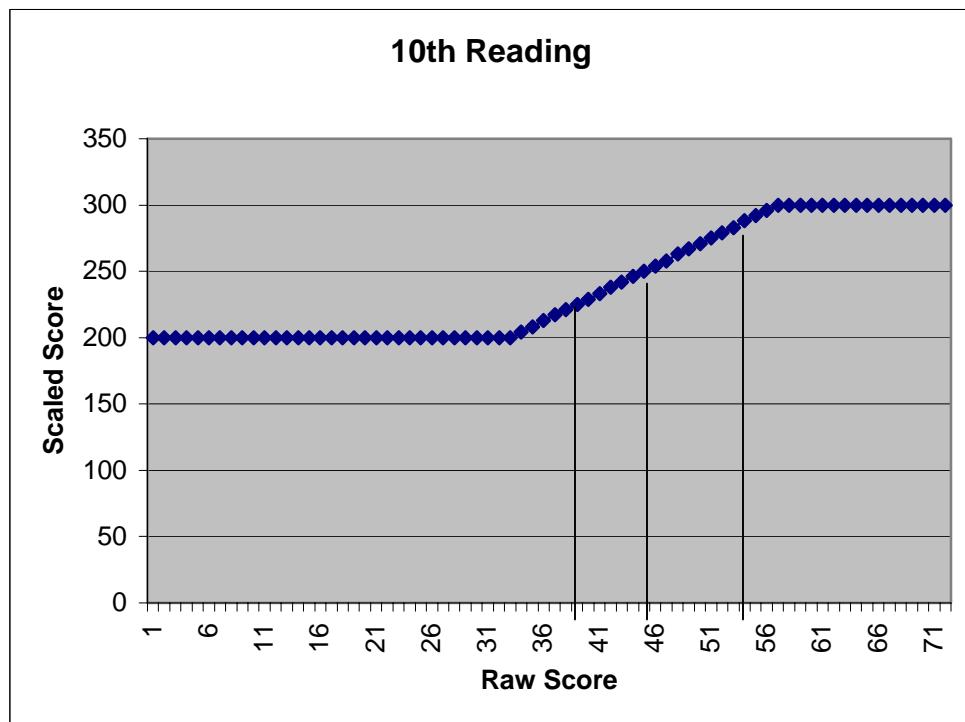
Normed or between scoring of academic progress reflects only on how many students were outperformed by the test taker, not personal improvement. Consequently, normed scoring is not useful for assessing interventions of at risk students where their academic improvements can be recorded only if they happen to do better than more students on a test than they did the last time they took the test. All students, but particularly at risk students, require recognition of what each of them has accomplished individually without regard to how many other students they have outperformed. In some cultures, deciding how well you have done is not reflected in how many others your achievement has exceeded and to be scored accordingly is contrary to the cultural value system. Cultures that value cooperation rather than competition may have little motivation to improve academically based upon between measures.

It is strongly recommended that at risk students, while working toward individual growth, be given within or personal measurements so that growth is relative only to the person striving to grow. All growth can be accurately recorded and used for additional gains. This is the philosophy utilized in Special Education where students are placed on an Individual Education Plan and growth is determined from within measurements. At risk students particularly require positive reinforcement for their efforts and within measurements provide that reinforcement. Normed tests also serve a purpose and their utilization will be appropriate at the end of the journey; however, it will be important for each at risk student to realize his or her own accomplishments before comparing them to others.

## **MontCAS**

The MontCAS test is the name of a criterion referenced test adopted by the State of Montana for the purpose of providing a common statewide test for the public school system. The scoring of the MontCAS is somewhat of a hybrid between CRT and NRT, with students being assigned a scaled score between 200 and 300, depending on how many correct responses they have.

According to the Montana Office of Public Instruction's technical manual for the MontCAS, which is available on their website <http://opi.state.mt.us>, the assignment of scaled scores for the 10<sup>th</sup> grade reading test, for example, is graphed below.



Scoring on this test is usually reported in four categories, Novice, Nearing Proficiency, Proficient, and Advanced, with each category set apart by the scaled score, i.e., a number from 200 to 300, assigned by the number correct (raw score). For the 10<sup>th</sup> grade reading test, a student who scores no correct responses receives a (scaled) score of 200, as does the student who scores 10, 20, 30, or up to 32 correct responses. All of these students and those who score up to 37 correct responses are placed in the Novice category. In order to change categories, a student must have 38 correct responses in order to be labeled Nearing Proficiency. The next change in categories occurs at 44 correct responses (Proficient) and the last change takes place at 53 correct responses (Advanced).

Consequently, in order to track growth in low scoring students, the number of correct responses (raw score) becomes the most authentic way of recording gain as a student starting with zero correct will have a scaled score of 200 and a label of Novice. That student can improve from zero correct to 32 correct (45%) and still have the very same scaled score of 200 and still be labeled a novice, and in fact, have as many as 52% correct and still not change out of the Novice category.

If at risk youth are evaluated using the MontCAS test, it will be important to utilize the actual number of correct (raw) scores and percents thereof in order to determine actual growth as the scaled scores are sensitive only to growth between 33 (46%) correct responses and 56 (79%) correct responses as scaled scores below 33 and above 56 correct responses do not change. The categorical descriptors are sensitive to growth at just three scores, 38 (54%) correct responses (Novice to Nearing Proficiency), 44 (62%) correct responses (Nearing Proficiency to Proficiency), and 53 (75%) correct responses (Proficiency to Advanced). As a result, it will be important to avoid scaled scores and particularly categorical descriptors when researching at risk achievement both before and after interventions have been applied.

## **Appendix D**

### **Potential Expenses Mandated by No Child Left Behind**

#### **Costs that are the responsibility of the State:**

- 1 teacher preparation and training,
- 2 curriculum, & instructional materials are aligned with challenging State academic standards
- 3 meeting the educational needs of:
  - a) low-achieving children in our Nation's highest-poverty schools,
  - b) limited English proficient children,
  - c) migratory children,
  - d) children with disabilities,
  - e) Indian children,
  - f) neglected or delinquent children,
  - g) young children in need of reading assistance;
- 4 providing children an enriched and accelerated educational program including:
  - a) school wide programs
  - b) additional services that increase the amount and quality of instructional time
- 5 offering scientifically based instructional strategies and challenging academic content;
- 6 providing staff in participating schools with substantial opportunities for professional development;
- 7 provide opportunities for all children to meet the State's proficient and advanced levels of student academic achievement
- 8 use effective methods and instructional strategies that are based on scientifically based research that:
  - a) strengthen the core academic program in the school
  - b) increase the amount and quality of learning time
    - i) providing an extended school year and before- and after-school and summer programs and opportunities
    - ii) help provide an enriched and accelerated curriculum;
    - iii) meet the educational needs of historically underserved populations
      - 1) include strategies to address the needs of all children, but particularly the needs of low-achieving children those at risk which may include:
        - a) counseling,
        - b) pupil services,
        - c) mentoring services
        - d) college and career awareness
        - e) college and career guidance
        - f) personal finance education,
        - g) innovative teaching methods, which may include applied learning and team-teaching strategies;
        - h) the integration of vocational and technical education programs;

### **Costs that are the responsibility of the State: (Continued)**

- 9 instruction by highly qualified teachers.
- 10 high-quality and ongoing professional development for teachers, principals, and paraprofessionals
- 11 creating activities to ensure that students who experience difficulty mastering the proficient or advanced levels of academic achievement standards shall be provided with effective, timely additional assistance which shall include measures to ensure that students' difficulties are identified on a timely basis & to provide sufficient information on which to base effective assistance.
- 12 incorporate activities before school, after school, during the summer, and during any extension of the school year,
- 13 incorporate a teacher mentoring program.
- 14 identify & implement professional development, instructional strategies, & methods of instruction that are based on scientifically based research
- 15 extend the school year or school day for the school.
- 16 the local educational agency shall provide, or shall pay for the provision of, transportation for the student to the public school the student attends.
- 17 providing support and assistance to local educational agencies with schools subject to corrective action under section 1116
- 18 providing support and assistance to other local educational agencies with schools identified as in need of improvement under section 1116(b);
- 19 providing support and assistance to other local educational agencies and schools
- 20 organizing a school support team of experts
- 21 giving teacher awards
- 22 providing the coordination, technical assistance, and other support necessary to assist participating schools in planning and implementing effective parent involvement activities to improve student academic achievement and school performance
- 23 each school and local educational agency:
  - a) should provide materials and training to help parents to work with their children to improve their children's achievement, such as literacy training and using technology, as appropriate, to foster parental involvement;
  - b) may provide necessary literacy training from funds received under this part if the local educational agency has exhausted all other reasonably available sources of funding for such training;
  - c) may pay reasonable and necessary expenses associated with local parental involvement activities, including transportation and child care costs
- 24 all teachers teaching in core academic subjects within the State are highly qualified not later than the end of the 2005–2006 school year.
- 25 annual increase in the percentage of teachers who are receiving high-quality professional development to enable such teachers to become highly qualified and successful classroom teachers;

### **Costs that are the responsibility of the State: (Continued)**

- 26 all paraprofessionals hired after the date of enactment of the NCLB & working in a program supported with funds under this part shall have:
  - a) completed at least 2 years of study at an institution of higher education;
  - b) obtained an associate's (or higher) degree; or
  - c) met a rigorous standard of quality and can demonstrate, through a formal State or local academic assessment;
- 27 all paraprofessionals hired before the date of enactment of the No Child Left Behind Act of 2001, and working in a program supported with funds under this part shall, not later than 4 years after the date of enactment satisfy the requirements listed above

### **Costs that should be funded through Federal Grants:**

#### ***STUDENT READING SKILLS IMPROVEMENT GRANTS***

- 1 providing assistance to State educational agencies and local educational agencies in establishing reading programs for students in kindergarten through grade 3 that are based on scientifically based reading research, to ensure that every student can read at grade level or above not later than the end of grade 3.
- 2 providing assistance in preparing teachers, including special education teachers, through professional development and other support, so the teachers can identify specific reading barriers facing their students & so the teachers have the tools to effectively help their students learn to read.
- 3 providing assistance to State educational agencies and local educational agencies in selecting or administering screening, diagnostic, and classroom-based instructional reading assessments.
- 4 providing assistance in selecting or developing effective instructional materials (including classroom-based materials) to assist teachers in implementing the essential components of reading instruction), programs, learning systems and strategies to implement methods that have been proven to prevent or remediate reading failure within a State.
- 5 supporting local efforts to enhance the early language, literacy, & pre-reading development of preschool age children, particularly those from low-income families, through strategies and professional development that are based on scientifically based reading research.
- 6 providing preschool age children with cognitive learning opportunities in high-quality language and literature rich environments,
- 7 using screening assessments to effectively identify preschool age children who may be at risk for reading failure.
- 8 improving the educational opportunities of the Nation's low-income families by integrating early childhood education, adult literacy or adult basic education, and parenting education into a family literacy program, to be referred to as 'Even Start'
- 9 implementing through cooperative projects that build on high-quality existing community resources to create a new range of services;
- 10 assisting children & adults from low-income families to achieve challenging State content standards & challenging State student achievement

## **Costs that should be funded through Federal Grants: (Continued)**

- 11 using instructional programs based on scientifically based reading research and addressing the prevention of reading difficulties for children and adults, to the extent such research is available
- 12 improve literacy skills & academic achievement of students by providing students with:
  - a) increased access to up-to-date school library materials,
  - b) a well-equipped, technologically advanced school library media center,
  - c) well-trained, professionally certified school library media specialists.

### ***EDUCATION OF MIGRATORY CHILDREN***

- 13 support high-quality and comprehensive educational programs for migratory children to help reduce the educational disruptions and other problems that result from repeated moves;
- 14 ensure that migratory children are provided with appropriate educational services (including supportive services) that address their special needs in a coordinated and efficient manner
- 15 ensure that migratory children receive full and appropriate opportunities to meet the same challenging State academic content and student academic achievement standards that all children are expected to meet;
- 16 design programs to help migratory children overcome:
  - a) educational disruption,
  - b) educational disruption,
  - c) cultural and language barriers,
  - d) social isolation,
  - e) various health-related problems,
  - f) and other factors that inhibit the ability of such children to do well in school,

### ***PREVENTION & INTERVENTION PROGRAMS FOR CHILDREN & YOUTH WHO ARE NEGLECTED, DELINQUENT, OR AT-RISK***

- 17 to improve educational services for children and youth in local and State institutions for neglected or delinquent children and youth so that they have the opportunity to meet the same challenging State academic content standards and challenging State student academic achievement
- 18 to provide such children & youth with the services needed to make a successful transition from institutionalization to further schooling or employment;
- 19 to prevent at-risk youth from dropping out of school,
- 20 to provide dropouts, and children and youth returning from correctional facilities or institutions for neglected or delinquent children and youth, with a support system to ensure their continued education.
- 21 State agency is responsible for providing free public education for children and youth in institutions for neglected or delinquent children and youth; attending community day programs for neglected or delinquent children and youth; or in adult correctional institutions.

**Costs that should be funded through Federal Grants: (Continued)**

- 22 to carry out high quality education programs to prepare children and youth for secondary school completion, training, employment, or further education;
- 23 to provide activities to facilitate the transition of such children and youth from the correctional program to further education or employment;
- 24 to operate programs in local schools for children and youth returning from correctional facilities, and programs which may serve at-risk children and youth.

**NATIONAL ASSESSMENT OF TITLE I**

- 25 the cost required for the development of academic assessments for students in grades 3 through 8;
- 26 The implementation of professional development activities assisted under this title & title II on instruction, student academic achievement, & teacher qualifications.

**ADVANCED PLACEMENT PROGRAMS ('Access to High Standards Act')**

- 27 raise academic standards through advanced placement programs,
- 28 increase the availability and broaden the range of schools, including middle schools, that have advanced placement and pre-advanced placement programs;
- 29 increase the participation of low-income individuals in taking advanced placement tests through the payment of costs of the advanced placement test fees;

**SCHOOL DROPOUT PREVENTION ('Dropout Prevention Act')**

- 30 ensure that all students have substantial & ongoing opportunities to attain their highest academic potential through school wide programs proven effective in school dropout prevention and reentry
- 31 school dropout prevention and reentry programs that involve activities such as:
  - a) professional development;
  - b) obtaining curricular materials;
  - c) release time for professional staff to obtain professional development;
  - d) planning and research;
  - e) remedial education;
  - f) reduction in pupil-to-teacher ratios;
  - g) counseling and mentoring for at-risk students;
  - h) school reentry activities.

**The entire NCLB law may be found online at**

**<http://www.ed.gov/policy/elsec/leg/esea02/107-110.pdf>**

## Appendix E

### Logs

#### Jilyn Olivera, Research Assistant

Phone Call Log 2005 - Jilyn Chandler Oliveira					
County	District Name	Last	First	Phone	
Beaverhead	Polaris Elementary	Donovan	Dottie	683-3737	called 7/25 @ 2:51 and left a message / 7/26 Polaris and Wisdom will complete the survey tomorrow
Beaverhead	Lima K-12 Schools	Dehl	Tim	276-3571	called 7/29 and will call back tomorrow
Big Horn	Lodge Grass Public Schools	Woods	Doug	639-2304	called 8/01 and left the info with the clerk
Blaine	BearPaw Elementary			357-3568	
Blaine	Hays-Lodge Pole K-12 Schls	Anderson	Mr.	673-3120	called 8/01 and he is working on it!
Broadwater	Townsend K-12 Schools	Patrick	Brian	266-5512	called 7/29 and left a message
Carbon	Boyd Elementary	Scott	Jerry	446-1301	x 209 called 7/25 @ 3:05 and left a message home:
Carbon	Fromberg Public Schools	Warner-Combs	Ed	668-7611	8/01 called and left a message
Carbon	Red Lodge Public Schools	Brajcich	Mark	446-1804	X210 called and left a message 8/02
Carter	Alzada Elementary	Carey	Carole	775-8721	called and talked to Carol and she gave me the District Clerk's number: Alisha Olsen 307-467-5114
Carter	Carter County H S	Northrop	Wade	775-8767	
Cascade	Deep Creek Elementary	Anderson	Jess	454-6776	called 7/25 @ 3:34 and left a message/ 7/26 returned Betty's call and Buffy Ogden @ 866-3539
Cascade	Vaughn Elementary			965-2232	
Cascade	Ulm Elementary	Anderson	Jess	454-6776	called 7/25 @ 3:34 and left a message/ 7/26 returned Betty's call and Diane Witmore @ 866-3313
Chouteau	Benton Lake Elementary	Stollfuss	Larry	622-3242	called and talked to Larry 7/25 @ 3:39 frustrated with the process he said he'd fill out one survey and wants it applied to all the districts
Custer	Kircher Elementary	Zook	Ellen	874-3421	called and talked to Ellen and she'll fill them out
Custer	Trail Creek Elementary	Zook	Ellen	874-3421	called and talked to Ellen and she'll fill them out
Custer	Spring Creek Elementary	Zook	Ellen	874-3421	8/01... left a message
Custer	Cottonwood Elementary	Zook	Ellen	874-3421	called and talked to Ellen and she'll fill them out
Custer	S H Elementary	Zook	Ellen	874-3421	called and talked to Ellen and she'll fill them out
Dawson	Bloomfield Elementary	Young	Martha	377-3963	talked to Martha and sent an e-mail with passwords and login info 7/25
Dawson	Deer Creek Elementary	Young	Martha	377-3963	talked to Martha and sent an e-mail with passwords and login info 7/26
Fergus	Spring Creek Colony Elem			538-7980	
Fergus	Denton Public Schools	Phillips	Bill	567-2370	called and gave the login info... she will pass on the info to the clerk and supt.

Fergus	Roy K-12 Schools	Sturm	Dustin	464-2511	
Fergus	Moore Public Schools	Lloyd	David	374-2231	
Flathead	Pleasant Valley Elementary	Sheffels	Marsha	758-5720	Left a message for Marsha and sent an e-mail with passwords and login info 7/25 called again 8/01
Flathead	Helena Flats Elem	Jenkins	Paul	257-2301	
Flathead	Olney-Bissell Elementary	Sheffels	Marsha	758-5720	left a message for Marsha and sent an e-mail with passwords and login info 7/25 called again 8/01
Flathead	Marion Elementary	Sheffels	Marsha	758-5720	left a message for Marsha and sent an e-mail with passwords and login info 7/25 called again 8/01
Gallatin	Ophir Elem	Hunt Brown	Linda	995-4281	
Gallatin	Willow Creek Public Schools	Exley	Maureen	285-6991	
Gallatin	Cottonwood Elementary	Fitzgerald	Mary Ellen	582-3090	
Gallatin	Pass Creek Elementary	Fitzgerald	Mary Ellen	582-3090	
Gallatin	LaMotte Elementary	Fitzgerald	Mary Ellen	582-3090	
Gallatin	Malmborg Elementary	Fitzgerald	Mary Ellen	582-3090	
Garfield	Pine Grove Elementary	Christensen	Karla	557-6115	Phone message said that Karla was gone until the 10th of August, so I left a message
Garfield	Kester Elementary	Christensen	Karla	557-6127	Phone message said that Karla was gone until the 10th of August, so I left a message
Garfield	Cohagen Elementary	Christensen	Karla	557-6115	Phone message said that Karla was gone until the 10th of August, so I left a message
Garfield	Ross Elementary	Christensen	Karla	557-6115	Phone message said that Karla was gone until the 10th of August, so I left a message
Glacier	East Glacier Park Elem	Johnson	Jetta	873-2295	
Golden Valley	Lavina K-12 Schools	Osler	Loren	636-2143	
Granite	Hall Elementary	Husbyn	Jo Ann	859-3831	
Granite	Philipsburg K-12 Schools	Cutler	Mike	859-3232	Called 7/29 and Mike "will try to get to it if he has time."
Hill	Rocky Boy Public Schools	Murie	Sandra	395-4291	Called 7/29 and left a message 8/01 left a message
Hill	Cottonwood Elementary	Isbell	Shirley	265-5481	Shirly is finished 7/28/2005
Hill	Blue Sky K-12 Schools	Grant	Terry	355-4481	called 8/01 and left a message
Hill	K-G Public Schools	Ballard	John	376-3183	called 7/79 and left a message
Jefferson	Jefferson H S	Klein	Robert	225-3740	
Judith Basin	Raynesford Elementary	Anderson Peevey	Julie	566-2277	
Lake	Charlo Public Schools	Young	Wes	644-2207	Called 7/28 and got Wes started...called 7/29 and gave him the Web site. We talked several more times to line things out! He's finished!
Lewis & Clark	Lincoln K-12 Schools	Heslier	Kathy	362-4201	Called 8/01 and Kathy said she had completed the survey
Lewis & Clark	Craig Elementary	Davis	Marsha	447-8344	

Liberty	J-I K-12 Schools	Warner-Combs	Ed	292-3832	
Lincoln	Trego Elementary	Higgins	Ron	882-4713	X 249 called 7/29 and Ron will find people to fill out the survey
Lincoln	Fortine Elementary	Higgins	Ron	293-7781	X 249 called 7/29 and Ron will find people to fill out the survey
Lincoln	Sylvantie Elementary	Higgins	Ron	293-7781	X 249 called 7/29 and he will fill out 1 survey for McCormick and Sylvanite
Lincoln	McCormick Elementary	Higgins	Ron	293-7781	X 249 called 7/29 and he will fill out 1 survey for McCormick and Sylvanite
Madison	Twin Bridges K-12 Schools	Whitesell	David	684-5657	Called and left a message
Madison	Harrison K-12 Schools	Rask	Dan	685-3471	
Madison	Ennis K-12 Schools	Walsh	Douglas	682-4258	He sent it to us in the mail... I need to fill it out on-line
Madison	Sheridan Public Schools	Graham	Tony	842-5302	Called 7/29 and will call back tomorrow, called 7/30 and left a message
McCone	Circle Public Schools	Radakovich	Mike	485-2545	Called 7/29 and he has sent the survey
Meagher	Ringling Elementary	Beley	Susan	547-3612	
Meagher	Lennep Elementary	Beley	Susan	547-2352	
Mineral	St Regis K-12 Schools	Aaring	Becky	649-2427	
Missoula	Potomac Elementary	Vielleur	Rachel	244-5581	talked to Rachel's Sec. and sent an e-mail with passwords and login info 7/25
Missoula	Woodman Elementary	Vielleur	Rachel	258-4860	talked to Rachel's Sec. and sent an e-mail with passwords and login info 7/25
Missoula	DeSmet Elementary	Vielleur	Rachel	258-4860	talked to Rachel's Sec. and sent an e-mail with passwords and login info 7/25, called Rose's husband Bill 549-4994
Missoula	Sunset Elementary	Vielleur	Rachel	244-5685	talked to Rachel's Sec. and sent an e-mail with passwords and login info 7/25,
Missoula	Swan Valley	Vielleur	Rachel	258-4860	talked to Rachel's Sec. and sent an e-mail with passwords and login info 7/25
Missoula	Lolo Elem	Magone	Michael	273-0451	Talked to Mike's secretary and he is sending the survey in 7/25/2005
Musselshell	Roundup Public Schools	Schlepp	William	323-1507	
Park	Springdale Elementary	Olson	Rodney	222-4148	left a message 7/25 @ 4:49
Park	Arrowhead Elementary	Olson	Rodney	222-4148	left a message 7/25 @ 4:49
Park	Pine Cr. Elementary	Olson	Rodney	222-4148	left a message 7/25 @ 4:49
Park	Livingston Public Schools	Anderson	Andrew	222-0861	called 7/29 and left a message, called 8/02 and he is finishing it up
Park	Cooke City Elementary	Olson	Rodney	222-4148	left a message 7/25 @ 4:49
Phillips	Dodson Public Schools	Simpson	Rodney	383-4362	
Phillips	Whitewater K-12 Schools	Cummings	Darin	674-5418	called and the sec said that he has sent it twice... Darin will call me!
Pondera	Brady K-12 Schools	Mepham	James	753-2522	
Pondera	Miami Elementary	Stone	Jo	271-4055	

Pondera	Valier Public Schools	Genger	Matt	279-3613	Called 7/29 and talked to the clerk... gave her login info and she will pass it on to the supt.
Powder River	Biddle Elementary			767-5778	
Powder River	South Stacey Elementary	Miller	Charlotte	436-2488	
Richland	Brorson Elementary	Staffanson	Gail Anne	433-1608	
Roosevelt	Frontier Elem	Roundy	Leland	653-2501	
Roosevelt	Bainville K-12 Schools	Busch	Rey	769-2321	
Roosevelt	Wolf Point Public Schools	Huber	Paul	653-2361	Left a message 8/01, he left a message for me and said that he would not complete the survey, called him back and he will finish the survey
Sanders	Camas Pride Elementary			741-2837	
Sanders	Dixon Elementary		Mark	246-3566	Called 8/01and helped Mark send in the survey
Sheridan	Outlook K-12 Schools	Dunk	Loren	895-2466	
Sheridan	Plentywood K-12 Schools	Bennett	Joe	765-1803	Call back Monday, called 8/01 and left him a message, called 8/02 and he is finishing it up!
Silver Bow	Divide Elementary	Heard	Edward	497-6215	
Stillwater	Fishtail Elementary	Campbell	Barbara	322-8057	Talked with Barbara and she has requested that Molt's survey is duplicated for Nye and Fishtail... see e-mail
Stillwater	Nye Elementary	Campbell	Barbara	322-8057	Talked with Barbara and she has requested that Molt's survey is duplicated for Nye and Fishtail... see e-mail
Stillwater	Park City Public Schools	Webb	Dick	633-2406	8/01/2005.. Sick said sent it in on the 18th of July and he will send it again
Sweet Grass	Melville Elementary	DeCook	Linda	932-5147	Called and left a message for the three Sweet Grass schools 7/26/2005
Sweet Grass	Graycliff Elementary	DeCook	Linda	932-5147	Called and left a message for the three Sweet Grass schools 7/26/2006
Sweet Grass	McLeod Elementary	DeCook	Linda	932-5147	Called and left a message for the three Sweet Grass schools 7/26/2007
Teton	Bynum Elementary	Maloney	John	466-2907	Called 7/27/2005 and left a message
Teton	Golden Ridge Elementary			467-2061	Called the county Sup. and left a message 7/27/2005
Teton	Dutton K-12 Schools	Tharp	Tim	476-3424	Called 8/01/2005 and left a message
Toole	Galata Elementary			432-2155	Called the county Sup. and left a message 7/27/2005
Valley	Lustre Elementary	Nyquist	Lynne	228-6226	Called 7/27/2005 and helped Lynne get started!
Valley	Frazer Public Schools	Whitesell	Richard	695-2241	8/01/2005 left a message, Richard called back and said he would see if he could do it!
Valley	Nashua K-12 Schools	Bigby	Arlene	746-3411	Call Sherley the District Clerk! Called the Supt on Monday! 8/01/2005... Sherley is finishing the survey
Wheatland	Harlowton Public Schools	Begger	Andrew	632-4822	Called 7/29/2005 and will e-mail Andrew with the login info
Wheatland	Shawnut Elementary	Beley	Susan	632-4816	Called 7/29/2005 and helped Susan get started
Yellowstone	Pioneer Elementary	Micheletti	A J	256-6933	Called Kristi @ 373-5215 8/02/2005
Yellowstone	Independent Elem	Laurent	Bill	259-8109	Called and left a message 8/01/2005

Yellowstone	Shepherd Public Schools	Barnes	Robert	373-5461	Called 7/29/2005 and Robert said that he sent it on Thursday. He is faxing it to me and I will re-enter the survey
Yellowstone	Elder Grove Elem	McDonald	Rob	656-2893	This district has a new principal and supt. I Gave them logon info and they will get started 7/27/2005
Yellowstone	Yellowstone Academy Elem	Zabrocki	Ed	656-2198	Called 8/01/2005 and left a message

## **Appendix F**

### **Summary on Development and Maintenance of the Needs Assessment Surveys**

Craig McNinch, Web Designer

The District Needs Assessment survey was an in depth survey that, after converting it to an online version, was a very large survey. The online version of the survey originally was spread across seven pages, but after discovering that some people taking the survey had trouble loading the survey, it was broken up to twelve pages. There were two surveys. One survey is the Public Needs Assessment Survey which is an online survey that is available to the general public. The other survey is a District Needs Assessment survey, which is only available to the administration groups within the state of Montana.

In June, I was approached with the task to convert the two surveys into web versions and build the necessary databases to hold these data. Using Macromedia Coldfusion as the scripting language and Microsoft SQL server I was able to complete the task. The goal was to get the surveys up and running by the beginning of July, but with a short time window for development, the survey was posted on July 7, 2005.

The public Needs Assessment Survey went smoothly. The only issue with it was that some people may have a child in one school district and another in a different school district. This problem was addressed and we found that they should select the best choice for problem #1 and then note it on the text area below. Another issue was that there was some ambiguity with question #23 on which text box was for state percentage and which text box was for the local percentage. I fixed the problem by clarifying the labels on the text boxes so that people taking the survey can tell the difference.

The District Needs Assessment Survey was a different story. As soon as I posted the survey live on July 7 2005, people using Internet Explorer 6 could not log into the survey. Apparently Microsoft increased the security setting on Internet Explorer 6, and without notifying the user, blocked any session variables used by the survey. I fixed the problem by creating a Compact Privacy Policy for the survey which basically tells Internet Explorer 6 that the survey site is a legitimate site. Before I found the fix, I notified the people attempting to access the survey on a work-around for the problem.

Another issue with the Public Needs Assessment survey was that some people had trouble accessing some of the survey pages. Apparently, their web browser could not load the appropriate form fields on the survey. I spent a consider amount of time trying to replicate the problem only to find out that it occurs on older machines with Windows 98 or earlier. The problem with it is that all the machines where I work, and basically on the University of Montana campus are newer machines with Windows 2000 or newer Operating Systems. This problem only occurred on older machines with older Operating Systems. I managed to find an older windows 98 machine and fixed the problem by breaking the survey up even more. The survey was originally 7 pages long, but now is 12 pages long because of that problem.

There were also a few issues where people could not submit their survey. Apparently they used an invalid character, which caused the script language to crash. Despite adding code to help scrub these characters out, a few went through. For the people that had trouble, I emailed them the hard copy of the survey and they filled out the section that was giving them trouble. They then email it back to me and I will enter these data into the system and have them verify it once it's in the system.

Some people did not receive a username and password from OPI. I assisted and sent them their username and password. I kept in contact with Joe Lamson at OPI and he helped me greatly in figuring out some problems with the Legal Entity numbers and the associated school districts.

In general the surveys went well. I won't say that they went smoothly, but hopefully they fulfilled the goal of this study. For the very short amount of time in the development and testing of the surveys I made it up in support. I tried my best to help every Superintendent and person that was having difficulty with the survey. I tried to make sure that data entering the system was not corrupt and that everyone was able to fill out the survey. I kept a log of emails that people sent to me regarding troubles that they had with the survey, and the replies that I sent back to them.

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<sup>ii</sup> The estimated operational expenditures for the 2005-06 school year was based on average growth in total expenditures in Montana over the past twelve years multiplied by the total expenditures used in our analysis which was for the 2003-04 school year.