## Estimating the Costs of Services FOR "At-Risk" Students <br> (PRELIMINARY)

SUBMITTED TO
Wyoming State Legislature

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# Estimating the Costs of Services for "At-Risk" Students 

## Introduction

In its February 23, 2001 ruling in Campbell v. Wyoming (2001 WY 19), the Wyoming Supreme Court found that the state's current formula for funding programs for at-risk youth did not meet the constitutional standard for a cost-based funding system. Specifically, the Court expressed concern that the existing formulas for economically disadvantaged youth (EDY) and limited English speaking (LES) students were not appropriately cost based. The Court also expressed concern with the severity of the eligibility cutoff points built into the respective formulas.

In its ruling, the Court indicated that the State must either fully reimburse (with state oversight) school districts for the funds necessary to educate EDY and LES children, or establish an accurate formula with which to distribute adequate funds for at-risk students (Campbell $v$. Wyoming, at paragraph 81). MAP recommends the latter course. Forty years of experience with state and federal categorical programs strongly predict that serious unintended consequences would attend the Court's first recommended remedy. Taken literally, full reimbursement would likely lead to an inappropriate and detrimental education for some Wyoming schoolchildren, which is almost certainly contrary to the goals of the Court.

First, consider the problems and associated consequences of unrestricted reimbursement of school district expenditures for at-risk students. There is no generally accepted definition of at-risk, which interventions are most effective, or even which students need extra services or are best left alone. In fact, most students, at one time or another, will exhibit characteristics of being at risk. Therefore, under the Court's first remedy school districts would be free to designate virtually every child at risk, record resources spent on that child, and send the state the bill. Without a significant state intrusion into local decision making, full reimbursement would allow schools to serve any student, in any educational setting, with any educational methodology, without regard to actual student needs or costs. Also, as discussed in our previous report on programs for students with special needs (Guthrie and Smith, 1998), this type of organizational response-creating programs separate from the general education program-tends to lead to fragmented educational programs that have proven to be educationally detrimental for children and tend to obfuscate accountability for their academic performance. Lastly, in addition to the potentially harmful educational effects on children of such a policy, full reimbursement puts no limit on expenditures, leaving taxpayers vulnerable.

Perhaps recognizing the pitfalls of unrestricted full reimbursement, the Court also suggested state oversight of school and district at-risk program expenditures. This recommendation, too, would likely have detrimental educational consequences for Wyoming schoolchildren. In order for the state to provide sufficient oversight, it would necessarily have to create a singular definition for those students who are eligible for services qualifying for reimbursement. Such a definition would have to narrowly define which students could be
considered at risk of educational failure and therefore eligible for service. Any definition would entirely deny services to children who could be considered at-risk to some degree but fell short of the necessary state criteria.

In addition to creating a definition of an at-risk student, the State would have to develop a list of acceptable expenditures eligible for reimbursement. Doing so would limit the educational program options available to educators, provide no incentives for schools to innovate new and effective strategies to educate at-risk students, and would lead to fragmented educational programs and the labeling of students, practices that have proven to be educationally detrimental. State oversight of at-risk programs would shift the responsibility of identifying and educating atrisk students from local officials to state bureaucrats, creating a culture of rules compliance rather than a culture focused on student results.

Finally, any sort of reimbursement program such as the ones described above would be expenditure based rather than cost based, and would seem to fail to meet the Court's requirement.

MAP proposes an alternative funding program for at-risk students that is consistent with the Court's desire to adequately serve children at risk of educational failure without the unintended consequences of full reimbursement (with or without state oversight). MAP recommends a funding approach that uses a general measure of school-level "at riskness" to provide adequate funding to school districts, affords local educators the flexibility to appropriately identify at-risk students in their districts and determine the most effective services for those children, and enables the state to hold districts accountable for results.

Such a funding system relies on an estimated or predicted proportion of children at each school who are at risk. The proportion of children who qualify for free and reduced-price lunch or who are limited English speaking in a school serve as the best available proxy for the share of children at that school who are at risk. Based on our site visits and a review of research literature, we recognize that as the concentration of at-risk students in a school increases, so, too, do the needs of the students in the school. Thus, we propose that the per-pupil funding supplement be dependent upon the concentration of at-risk students. The funds generated by each school would be sent to the respective district as part of its block grant.

This new approach to funding will give local educators adequate resources to specifically tailor programs to individual at-risk students without requiring them to label children who require extra assistance or to account for every expenditure aimed at meeting those children's needs. By providing increasingly higher levels of funding commensurate with higher concentrations of at-risk children, the funding model enables districts to provide more intensive services where they are needed. The funding provided allows educators to implement their choice of programs that research has shown to effectively meet the needs of high concentrations of at-risk students including early intervention programs, a focus on reading skills in the primary grades (before students fall far behind), smaller classes, and individualized tutoring.

Not only is the system cost based as required by the Court, but by providing funding for all above-average concentrations of at-risk students, it avoids the Court's concern about the
cutoff points in the previous EDY and LES models, and continues to recognize the proportionally higher level of needs of schools and districts with higher concentrations of at-risk students.

The main body of this report is organized into four parts. The first part, Section II, explains how at-risk student populations are identified and measured. The next part compares Wyoming's at-risk demographics to those of other states (Section III) and explains Wyoming's current funding formulas and program initiatives to serve economically disadvantaged youth (EDY) and limited English speaking (LES) students (Sections IV and V). The third part of the report synthesizes our research on at-risk students, including effective resource allocations and programs (Section VI) and available options for cost-based adjustments (Section VII). The final part, section VIII, delivers our recommendations for funding at-risk students in Wyoming, complete with a funding formula and methodology based on research and site visits.

## What Does It Mean to be "At Risk"?

MAP's prior reports used the broad term "special needs" to describe students who require educational services above and beyond the regular education program. That all-encompassing term included students who are economically disadvantaged, limited English speaking, and children with disabilities (special education). In this report, we choose a less inclusive term to focus attention on a subpopulation: students at risk. We use the unduplicated proportion of students who are eligible for the free and reduced-price lunch program-the best available measure of student poverty-or are limited English proficient in a school as an effective proxy for the presence of at-risk students. One should note that this is not intended to become a categorical program that provides services only for children eligible for federally subsidized meals or who are limited English speaking. Not all poor students are at risk of educational failure, and not all students at risk are poor. Also, not all LES children have the same level of need. Some require intensive language development, while others require modest assistance learning English. ${ }^{1}$ As with all at-risk students, the intensity and duration of interventions will vary according to student needs. However, there is growing evidence that educational need-and therefore costs-increase as concentrations of poor and limited English speaking students increase.

The relationship between poverty and language proficiency and academic achievement is typically negative, further illustrating the link between these background characteristics and potential at-risk populations. In Wyoming, the WyCAS test is given to $4^{\text {th }}, 8^{\text {th }}$, and $11^{\text {th }}$-grade students in reading, writing, and math. Table 1 shows the correlation between WyCAS scores and both free and reduced-price lunch eligibility and limited English speaking students. The table shows a negative relationship in every case.

[^0]Table 1: Correlations between WyCAS mean scores and students who qualify for free and reduced-price lunch or for limited English speaking programs: 2001

|  |  | WyCAS Mean Scores |  |  |
| :---: | :--- | :---: | :---: | :---: |
| Grade | Student <br> Characteristic | Reading | Writing | Math |
| 4 | Free and Reduced | $-0.256^{* *}$ | $-0.245^{* *}$ | $-0.235^{* *}$ |
| 4 | LEP | $-0.188^{* *}$ | $-0.144^{*}$ | $-0.200^{* *}$ |
|  |  |  |  |  |
| 8 | Free and Reduced | $-0.491^{* *}$ | $-0.467^{* *}$ | $-0.509^{* *}$ |
| 8 | LEP | $-0.189^{*}$ | -0.183 | $-0.241^{* *}$ |
|  |  |  |  |  |
| 11 | Free and Reduced | $-0.206^{*}$ | $-0.256^{*}$ | $-0.310^{* *}$ |
| 11 | LEP | -0.141 | -0.054 | -0.142 |

** Correlation significant at the 0.01 level ( 2 tailed test)

* Correlation significant at the 0.05 level ( 2 tailed test)


## Defining "At Risk"

The term "at risk" is used widely and freely in describing certain segments of student populations. However, no single definition exists, nationally or in Wyoming schools. In fact, Wyoming's definition of at risk is circular in argument.

At-Risk Students. School age individuals who are likely to experience economic, social, and academic failure because of social or family conditions or at-risk behavior. ${ }^{2}$

Many behaviors are associated with being at risk, including low test scores, discipline problems, attendance problems, and dropping out. However, these behaviors are symptoms associated with being at risk rather than the definition or causes of being at risk. All students, at one time or another in their school career may exhibit behaviors that are typically associated with at-risk students. For most students, a properly trained teacher, a well implemented education curriculum, and coordination between the teacher, counselor, administration, and family can offset these temporary behaviors. However, some students, because of social, environmental, or educational circumstances, will require more intensive services and for a longer duration, services that are not accommodated in the regular education program. Where such students occur in significant concentrations, additional resources may be required to meet their needs.

Because of the fine distinction between transitory and more permanent symptoms of "at riskness," it would be specious to define at-risk students by the incidence of these behavioral measures. All things being equal, local educators are in the best position to decide which services are appropriate for each child.

[^1]The National Institute on the Education of At-Risk Students (At-Risk Institute), located within the Office of Educational Research and Improvement at the U.S. Department of Education, defines students at risk as those "at risk of educational failure because of limited English proficiency, poverty, race, geographic location, or economic disadvantage." ${ }^{3}$ Additionally, the Center for Research on the Education of Students Placed At Risk (CRESPAR) and the Journal of Education for Students Placed At Risk (JESPAR), both at Johns Hopkins University, define students placed at risk of academic failure "in a way similar to previous descriptors such as 'disadvantaged'. The roots of the disadvantage might be economic, racial, ethnic, national/regional, or it may be due to some other clear source." ${ }^{4}$

Student characteristics tend to be the primary explanation for low academic achievement, but at least some students are likely affected by low-quality educational programs. Druian and Butler (1987) are careful to point out the importance of distinguishing "between social characteristics of at-risk youth and the conditions in schools which inhibit or fail to bring about learning. It is becoming increasingly clear that at-risk youth are those who attend certain types of schools-specifically schools with little support, which promote low expectations and which have little or no curriculum focus." ${ }^{5}$ CRESPAR continues by saying that students, "especially those from poor and minority families, are placed at risk by school practices that are based on a sorting paradigm in which some students receive high expectations instruction while the rest are relegated to lower quality education and lower quality futures." ${ }^{6}$

If one were to observe a school with a student population of primarily English-speaking, non-poor, and non-minority students, but low academic achievement, especially if such a school enjoyed the level of resources available to Wyoming schools, the likely explanation would be inadequate program implementation rather than inadequate resources.

Fisher and Adler (1999) show convincingly that there is a substantial gap in reading performance on the NAEP between children who qualify for free and reduced-price lunch and those who do not. To the extent that low-income children are commonly at risk in terms of academic performance, these findings are applicable more generally to at-risk children-further evidence that this measure of poverty is a good way to identify the children most at risk of failing in a school system. Using free and reduced-price lunch eligibility to determine risk-something done in almost every state that funds programs to support at-risk children and by the federal government-is the best method currently available. Limited English speaking children also represent a group likely to be at risk due to their need to learn both English and the material in

[^2]the curriculum. To the extent that these children also need additional services, their presence in a school system is also a good proxy for the number of children who are academically at risk.

## At Risk Versus Special Education

Though at-risk and special education students may share similar academic and behavioral characteristics, and schools may provide them with similar services, care should be taken to distinguish between the two-even though doing so is often very difficult in practice. At-risk students are those who are not achieving up to their academic potential for a variety of reasons, including socioeconomic factors such as poverty, background factors such as limited English proficiency, or poor academic programs at the school. Students classified as needing special education are those who are not performing to their academic potential because of an identified disability. Special education is not discussed in this report because Wyoming currently reimburses school districts for $100 \%$ of their expenditures on special education students.

## At-Risk Concentration

There is a growing empirical base indicating that as the concentration of at-risk students increases, the needs of all students increase as well (Orland, 1999, and Reschovsky and Imazeki, 1998 and 2001). The presence of student characteristics such as poverty and limited English proficiency greatly increases the likelihood of a youth's exposure to educationally disadvantaged conditions. Orland (1999) points out that one could predict with considerably more accuracy a school's academic performance by knowing its overall rate of poverty than you could predict an individual student's achievement by knowing whether or not he or she was poor. ${ }^{7}$
Emphasizing the unique circumstances that attend concentrations of at-risk students, JESPAR requires that case studies for at-risk education programs have schools that "serve a population that is at least $50 \%$ free lunch eligible and/or $50 \%$ minority or bilingual." ${ }^{8}$ Recognizing that schools with lesser concentrations of economically disadvantaged and/or language-minority students may also have at-risk students, this standard nonetheless provides some guidance of atrisk students and the difficulties associated with high concentrations.

## Wyoming in Context

Before reviewing the empirical research on programs for at-risk and limited English speaking children, it is helpful to compare Wyoming's students to those in other states, using some at-risk indicators. Table 2 compares Wyoming's student population with that of surrounding states and the U.S. average on four characteristics: percent eligible for free and reduced-price lunch, percent limited English proficient students, percent minority students, and per-pupil expenditures.

[^3]Table 2: Comparison of Wyoming Student Demographics With Surrounding States and the U.S. Average

| State | \%Free/Reduced <br> Lunch 1999-2000 | \%LEP <br> $\mathbf{1 9 9 7 - 9 8}$ | \%Minority <br> 2000-01 | Expenditures <br> Per Pupil (\$) <br> 2000-01 |
| :--- | :---: | :---: | :---: | :---: |
| Wyoming | 28.1 | $2.0^{+}$ | 12.1 | 7,928 |
| Utah | 27.6 | 8.0 | $13.2^{*}$ | 4,372 |
| Idaho | 32.3 | 5.4 | 14.0 | 5,386 |
| Montana | 30.9 | 5.5 | 13.8 | 6,390 |
| South Dakota | 28.2 | 5.8 | 13.3 | 6,115 |
| Nebraska | 29.8 | 2.2 | $16.0^{*}$ | 7,050 |
| Colorado | 27.7 | $7.4^{+}$ | 31.8 | 6,085 |
| US Average | -- | 7.6 | $37.7^{*}$ | 7,079 |

SOURCES: Expenditure data comes from U.S. Department of Education, National Center for Education Statistics, Common Core of Data "Early Estimates of Public Elementary/Secondary Education Survey," 2000-2001. Minority data comes from respective state education agencies. Limited English proficient data comes from National Clearinghouse for Bilingual Education. Free/Reduced Lunch data comes from U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "Public Elementary/Secondary School Universe Survey," 1999-2000 and "Local Education Agency Universe Survey," 1999-2000.
${ }^{1}$ Estimated by U.S. Department of Education, National Center for Education Statistics
${ }^{+}$Data from 1996-97 is used because data from 1997-98 is missing.

* Data from 1999-2000 taken from U.S. Department of Education, National Center for Education Statistics, Common Core of Data, "Public Elementary/Secondary School Universe Survey, " 1999-2000 and "Local Education Agency Universe Survey," 1999-2000.

Table 2 shows that Wyoming has approximately the same percentage of children who qualify for free and reduced-price lunch as the surrounding states. There are proportionally fewer limited English speaking students in Wyoming than in any of the surrounding states; the 2.0 percent of students who are limited English speaking is considerably lower than the U.S. average of 7.6 percent. The percentage of minority students is lower than any of the surrounding states as well, and considerably lower than the percentage of minority students in the United States overall. Moreover, Wyoming's per-pupil expenditures exceed those of all of the surrounding states. Per-pupil expenditures in Wyoming were nearly $\$ 900$ more than the national average and nearly $\$ 3,600$ more than was spent per pupil in Utah. ${ }^{9}$

In sum, the data presented in Table 2 suggest that Wyoming has relatively few children who meet the traditional indicators of an at-risk population compared to the surrounding states and the nation. At the same time, Wyoming spends more per student than each of these states and the national average.

[^4]Table 3 and Table 4 suggest that Wyoming students perform comparably to students in most of the surrounding states and to the national average on the mathematics and reading portions of the National Assessment of Educational Progress (NAEP), commonly referred to as the "Nation's Report Card."

Table 3: Grade 8 Mathematics NAEP Average Scale Score

| State | $\mathbf{2 0 0 0}$ | $\mathbf{1 9 9 6}$ | $\mathbf{1 9 9 2}$ | $\mathbf{1 9 9 0}$ |
| :--- | :---: | :---: | :---: | :---: |
| Wyoming | 277 | 275 | 275 | $272^{*}$ |
| Utah | 275 | 276 | 274 | -- |
| Idaho | 278 | -- | 275 | $272^{*}$ |
| Montana | 287 | $283^{*}$ | -- | $281^{*}$ |
| South Dakota | -- | -- | -- | -- |
| Nebraska | 281 | 283 | 278 | $276^{*}$ |
| Colorado | -- | -- | -- | -- |
| US Average | 274 | $270^{*}$ | $266^{*}$ | $261^{*}$ |

SOURCE: National Center for Education Statistics, National Assessment of Educational Progress, "The Nation's Report Card: Mathematics 2000."
*Average scale score is significantly different than Year 2000 average scale score
Note: For 2000, Idaho, Montana, and Nebraska average scale scores were significantly higher than the national average.

Table 4: Reading NAEP Average Scale Score for Grade 4 and 8

| State | Gr. 4 1998 | Gr. 4 1994 | Gr. 4 1992 | Gr. 8 1998 |
| :--- | :---: | :---: | :---: | :---: |
| Wyoming | 219 | 221 | 223 | 262 |
| Utah | 215 | 217 | 220 | 265 |
| Idaho | -- | -- | -- | -- |
| Montana | 226 | 222 | -- | 270 |
| South Dakota | -- | -- | -- | -- |
| Nebraska | -- | -- | -- | -- |
| Colorado | 222 | 213 | 217 | 264 |
| US Average | 215 | 212 | 215 | 261 |

SOURCE: National Center for Education Statistics, National Assessment of Educational Progress, "The Nation's Report Card: Reading 1998." Note: For 1998, Montana and Colorado grade 4 average scale scores were significantly higher than the national average. For 1998, Utah and Montana grade 8 average scale scores were significantly higher than the national average.

Tables 3 and 4 show that states such as Idaho, Montana, Utah, and Nebraska-states that have larger proportions of students who are limited English proficient and minority and that spend less per student-posted above-average scores on the subject-matter tests. Wyoming NAEP scores were statistically no different than the national average.

# Current Wyoming Funding Model 

## Rationale for Block Grant Funding

The core of Wyoming's school funding model is the Cost-Based Block Grant (Guthrie et al., 1997). MAP's block grant is based on prototype schools that panels of educational experts agreed offered enough resources to enable the school to provide the Wyoming "basket" of educational goods and services to all Wyoming children. ${ }^{10}$ The prototypes were originally predicated on a student population that reflects Wyoming demographic averages. Thus, the prototypes would provide sufficient resources if a school were average in terms of enrollment and student characteristics, including at-risk students. The prototypes provide each school with adequate funding to hire enough teachers to keep class sizes very small and to provide professional development for staff. ${ }^{11}$ The Cost-Based Block Grant has the advantage of allowing each school district to determine the best way to allocate resources to meet the individual needs of its children with generated funding.

In designing the current formula, MAP specifically recommended against the use of categorical funding programs, stating (Guthrie and Smith, 1998, p.3):

Thus, while we cannot conclude definitively that traditional categorical programs have failed, we have no firm evidence of their success. Why the billions of dollars of state and federal categorical funds have largely failed to demonstrate that they produce the desired results should be a question of great concern to educational policy makers. It is likely that at least part of the reason for this separately lackluster performance can be traced to the flaws inherent in categorical programs.

Instead of developing categorical programs, MAP designed an inclusive system to meet the diverse needs of all children in a school. When concentrations of at-risk students exceeded average concentrations, additional resources were provided to meet their needs. Current programs for students who are in some way at risk are described below.

## Economically Disadvantaged Youth (EDY)

In addition to federal Title I funding for disadvantaged students, the Wyoming block grant funding model provides schools with high concentrations of economically disadvantaged youth (EDY) an additional $\$ 500$ for each student who qualifies for free and reduced-price lunch when the percentage of EDY students exceeds 150 percent of the state average for that type of school.

[^5]
## Limited English Speaking (LES)

The current funding model provides an adjustment factor of 1.15 , or approximately $\$ 900$ for each student identified as having limited English speaking skills. This adjustment is provided when LES students exceed 20 students per grade or 25 percent of the school wide ADM. See Guthrie and Smith (1998) for a discussion of program requirements and associated costs.

## Schools Use of These Funds

Based on our field interviews, in many cases there appears to be a disconnect between generation of EDY funds and their use. Although EDY funds are determined based on the number of low-income children in a school, the funds generated are distributed to the school district. In our fieldwork in some 30 schools across the state, we found very few school-level administrators who were aware of the EDY funds generated by their school, and none of them was able to link programmatic goals or interventions in their school for at-risk children to the EDY funds received through the block grant by the district.

This is not inconsistent with the general nature of the block grant. The EDY adjustment was made in the form of the block grant so that district and school officials would make programmatic decisions to best serve the individual needs of students based on a total amount of money rather than in the constrained and disjointed manner typically associated with categorical programs. However, in cases where school administrators are completely unaware of the funds available to them through the EDY supplement, there may be a lack of articulation between the district and its schools about programmatic goals for at-risk students and how the available resources should be deployed in pursuit of those goals. If school officials are unaware of schoolgenerated funds for the district and how they are being utilized, the district may not be utilizing those resources in the most cost-effective ways to meet the needs of at-risk students. ${ }^{12}$

## Court Response

The Wyoming Supreme Court criticized the EDY funding approach in part because of the severity of the cutoff point for qualifying for additional resources. The Court pointed out that a school with 149 percent of the state average of children qualifying for free and reduced-price lunch would qualify for no additional state aid, while a school with 150 percent of the state average would qualify for $\$ 500$ for each of the children who received free and reduced-price lunches. They declared that this distinction was not "cost based" (Campbell v. Wyoming, at paragraph 77).

The Wyoming Supreme Court also deemed the cutoff point for LES students arbitrary and expressed concern about the determination of $\$ 900$ as a legitimate measure of the costs incurred for children with limited English speaking skills (Campbell v. Wyoming, at paragraph 79).

[^6]
# Wyoming At-Risk Interventions 

## School Intervention

The Wyoming School Accreditation Regulations state:
The district shall have policies and procedures for every school in the district to identify and intervene with at-risk students. In addition, all schools shall provide instruction as appropriate through the school curriculum directed at the prevention of at-risk behavior. ${ }^{13}$

In our Wyoming field interviews, we found considerable variation both in how at-risk children were identified and in what interventions were provided. The one area of consistency we did find was that most schools employed a Building Intervention Team (BIT) to identify students who were at risk.

## Wyoming Reading Assessment and Instruction Program

Reading programs are an important part of any program for at-risk children. There is ample evidence that most low-income, limited English proficient, as well as special education children identified as Learning Disabled, typically suffer from reading deficits (see for example Grissmer et. al., 2000; Donahue et. al., 1999; George, Grissom and Just, 1996; and Stringfield, Millsap and Herman, 1997).

Apparently based on this and similar research, the Wyoming Legislature has implemented one new categorical grant program, the Wyoming Reading and Assessment Program. For school year 2001-02 school districts are required to assess reading competence of all students in grades 1 and 2 and to develop an individual reading plan for each student not reading consistent with state standards. Districts are required to annually report progress toward reaching a goal of 85 percent of identified students being reading proficient.

The funding proposal from the Wyoming Department of Education would provide professional development to reading teachers in grades K-2 through a team of 45 reading specialists and a literacy expert at the Department.

State funding of $\$ 167$ per K-2 ADM or $\$ 3,507,000$, will be appropriated for the purposes of this program. The funding provided through SF 0092 is adequate to provide a reading program for primary grade children. As established by the legislature, this program is categorical and not part of the Cost-Based Block Grant. Smith and Hayward (2001) argue that this creates two potential problems. First, the track record of national and state categorical programs over the past 40 years has been mixed at best (see Guthrie and Smith, 1998). In effective school districts, early assessment and treatment would be part of the basic program-the way such a district would normally do business. Making this program categorical probably provides little incentive for this effort to become an integral part of a comprehensive program strategy for all students. Second,

[^7]the duration of the program is unclear. Limiting funding to one or two years may discourage school districts from investing the staff time necessary to develop procedures and otherwise take steps to make the process an integral part of its program strategy. Therefore, we strongly recommend that the reporting requirements associated with this program be retained, but the funding be folded into the block grant.

## Research-Based Interventions for At-Risk Students

Today it is widely accepted that students at risk of educational failure due to individual characteristics require an effective use of existing and, in cases where there are large concentrations of such students, additional resources. Grissmer et. al. (2000: xx) state specifically:
... that additional resources provided to public schools mainly affect minority and less-advantaged students and that these effects can be large and significant if properly allocated and targeted. However, additional resources deployed in historical ways have had much less, if any, effect on more-advantaged students.

This section synthesizes the research findings on strategies that have been implemented to effectively utilize resources to improve at-risk student learning, both as individual components in a general strategy to educate at-risk students and then in the form of a comprehensive school reform package. These strategies provide examples of effective resource allocations and provide a guide for any cost-based adjustments for at-risk students.

## Resource Allocation Components

## Class Size/Pupil-Teacher Ratio ${ }^{14}$

- Many of the studies of Tennessee's Student-Teachers Achievement Ratio project (STAR) also find that smaller classes lead to improved student achievement-with the most pronounced gains to low-income and minority students (see in particular, Krueger, 1998; and Mosteller, 1995).
- Research shows that small classes of 15 (and not a class of 30 with an instructional aide or two teachers) in kindergarten through grade 3 have significant positive impacts on student achievement in mathematics and reading-with larger impacts for students from low-income and minority backgrounds (Finn and Achilles, 1999, Grissmer, 1999; Odden and Busch, 1998; Odden and Picus, 2000: chapter 8; and Odden and Archibald, 2001).
- Rivkin, Hanushek, and Kain (1998) found class size variation had no significant effect on students who were not eligible for free or reduced-price lunch (non-poor), but did have a measurable impact on students who were eligible (poor).

[^8]- The gains in test scores for students in small kindergarten classes persisted through the third grade. However, there were no additional gains from small class sizes in first through third grades (Hanushek, 1998).
- Analyzing the Wisconsin SAGE class size reduction program Molnar, et al. (1999) found results similar to the Tennessee STAR study, and that the achievement benefits of SAGE's small class sizes were stronger for African-American students. In fact, they found evidence that the effect was to reduce the achievement gap between White and African-American students.
- Odden argues that class sizes in other grades should be no larger than an average of 25, which is about the national average and the size on which most comprehensive school reform models are based.
- Lower pupil-teacher ratios in states with high-SES students and already low pupil-teacher ratios (such as Wyoming) had relatively small effects on NAEP student achievement, whereas reducing class size, particularly in the lower grades, in states with low-SES students and high pupil-teacher ratios had large positive effects on NAEP test scores (Grissmer et. al., 2000).
- Other research suggesting smaller classes are more effective for low income and minority students: Dolan and Schmidt (1987); Education Research Service (1980); Robinson and Wittebols (1986); Summers and Wolfe, 1977. (Reported in Rice, 1999.)
- Hanushek (2001) points out that even in Grissmer's analysis of NAEP scores, the very high costs of reducing class sizes for all students would yield only a two-point rise in test scores-not a cost-effective policy, particularly for states like Wyoming with higher-than-average SES and already low pupil-teacher ratios and small classes in its schoolswhich are also small by comparison.
- Odden and his colleagues further suggest that it is more cost-effective if this policy is limited to schools with a predominance of lower-income and minority students.


## School Size

- Research findings on school size have been more compelling than findings on class size.
- Cotton (1996), Lee and Smith (1997), and Raywid (1997-98), concluded that there is considerable evidence that elementary schools of 300-500 students and secondary schools of 400-900 students are the most effective, particularly with low-income and minority students-those most associated with being at risk.
- Gregory (1992) argues that high schools of 250 or smaller, often thought to be too small, can offer cost-effective programs.


## Pre-Kindergarten/Kindergarten ${ }^{15}$

- Pre-kindergarten had a stronger effect on NAEP scores in lower-SES states (Grissmer et. al., 2000).
- High-quality preschool for students from lower-income backgrounds, has significant long-term impacts on student academic achievement, as well as other desired social and community outcomes (Slavin, Karweit and Wasik, 1994; Barnett, 1995, 1998).
- Full-day kindergarten for students from low-income backgrounds also has significant, positive impacts on student learning in the early elementary grades (Slavin, Karweit and Wasik, 1994).


## Early Reading Intervention

- Research suggests that children identified as having a reading disability (RD) after grade 2 rarely catch up to their peers. ${ }^{16}$
- Given that the primary deficit of as many as 80 percent of children with learning disabilities is in basic reading skills, Lyon (1996) reports a longitudinal study that found that 74 percent of children whose learning disability was identified when they were nine or older continued to read in the lowest quintile throughout middle and high school. ${ }^{17}$
- Dyer (1992) points out that Programs like Reading Recovery, while initially expensive, offset the initial high cost with the money saved through (1) not having to retain lowachieving students in the first grade; (2) not having to place students in special education or Chapter 1 programs; and (3) not mislabeling a child as "learning disabled" when in fact the child needed only the brief, supplementary intervention provided by Reading Recovery. ${ }^{18}$


## Teacher Resources/Planning

- Teacher resources have a significant impact on student performance regardless of family characteristics (Grissmer et. al., 2000: xxvii).

[^9]- Teachers need some time during the regular school day for collaborative planning and ongoing curriculum development and review.
- Providing each teacher one period a day for collaborative planning and curriculum development requires an additional 20 percent allocation of teachers (schools also need to teach art, music, library and physical education, teachers and staff that who could be used for this purpose) to those needed to provide the above class sizes (Odden and Busch, 1998; Odden and Picus, 2000: chapter 8; and Odden and Archibald, 2001).


## Professional Development

- All school faculties need ongoing, effective professional development that produces change in classroom practice and leads to improved student achievement (Odden and Busch, 1998; Odden and Picus, 2000: chapter 8; and Odden and Archibald, 2001).
- Teacher training is an important factor in the success of programs such as Reading Recovery (Pinnell, 1994). ${ }^{19}$


## Comprehensive Strategy for At-Risk Students

- Every school should have a powerful and effective strategy for struggling students who must work harder and need more time to achieve proficiency levels.
- Researchers studying high-performing, high-poverty urban schools concluded that programs for at-risk students need to allocate resources towards increasing the quantity and quality of time made available for instruction through reduced class size, "Saturday Schools," and extended-year programs (Johnson and Asera, 1999).
- Several researchers suggest that the most powerful and effective strategy for students from lower-income backgrounds, those struggling to learn English, and those with learning and other mild disabilities is individual one-to-one tutoring provided by licensed teachers (Shanahan, 1998; Wasik and Slavin, 1998; Odden and Archibald, 2001).


## Examples from Whole School Reform Models

Comprehensive school reform programs are research-based whole school models that have shown a reasonably high degree of success in improving student performance, most notably the New American Schools models. ${ }^{20}$ These comprehensive school reform models offer schools

[^10]and districts the opportunity to implement schoolwide research-based reform strategies designed to increase student learning and academic achievement. Though widely known as elementary school models, there are whole school models designed for middle and high schools that are accepted under Obey-Porter Title I legislation. ${ }^{21}$ Examples of these secondary school programs are the Talent Development Middle School and Talent Development High School models developed to address urban middle and high schools with high-poverty student populations.

These and other New American Schools models are not the only approaches to school improvement, but have been studied more extensively than others. It is not our purpose to espouse the adoption of any of these programs. However, if a Wyoming school district is not successfully educating at-risk students, adoption of one of these programs should enhance its effectiveness; and Wyoming school districts have sufficient resources to adopt any of these models. The rationale is directly analogous to the prototype models used for funding the CostBased Block Grant. They represent one way to deliver the basket. There are many more ways, some more costly, some less; but none demonstrably more effective.

## Cost-Based Adjustments for Wyoming At-Risk Students

There are three approaches to further estimate cost-based at-risk funding levels. The first is for the legislature to identify specific research-based programs or types of treatments for atrisk students, mandate that they be used, and then provide funding adequate to provide those resources. MAP recommends against this approach because experience with constrained programs suggests educators may resent imposition of programs they have not participated in designing and because it would limit the types of programs available to Wyoming educators and at-risk students. The next alternative is to estimate costs through the use of econometric modeling designs known as Cost Function Research. The third alternative would be to estimate the costs of educating at-risk students by analyzing the costs of strategies that appeared to work in the Wyoming context over time (e.g. improved WyCAS scores, improved attendance, and reduced drop out rates) and providing adequate funding to implement those programs statewide.

## Cost Function Literature

One approach to estimating the costs associated with educating at-risk students comes from what is known as the cost function literature. This approach relies on the use of complex statistical analysis to ascertain the mix of inputs needed to reach a given level of student outcomes. The question this approach seeks to answer is: How much money per pupil is needed to produce a given level of student performance? The result produces an expenditure per-pupil for the average district that would be used as the basic expenditure level for the state. This amount is then adjusted to account for differences in student and district characteristics and for differences in the price of educational goods and services. The expenditure level is higher as the expected performance level is increased.

[^11]While creating interest among economists, this method, because of its statistical complexity, lacks appeal among policy makers. It also has tended to direct substantially more resources to urban schools (which have conditions not generally affecting Wyoming schools) than found in most state funding distribution policies. For these reasons, MAP does not recommend using the cost function approach to estimate the costs of programs for at-risk students.

## Resource Allocation Strategies

Detailing strategies identified as successful through research provides the opportunity to further develop cost estimates of programs for at-risk children. These research-based strategies continue to be implemented and studied in schools and districts across the nation. Typically, schools in other states adopting these interventions have higher pupil-teacher ratios, larger classes, and larger schools than are found in Wyoming. However, by comparing the level of resources utilized for these interventions to the level of resources provided for in the Wyoming school prototypes, it may be possible to determine the incremental resources needed to fully implement those strategies that research suggests are helpful to high concentrations of at-risk children. Table 5 compares effective research-based resource allocation strategies with Wyoming prototypes and other programs.

Table 5: Comparison of Effective Allocation Strategies and Wyoming Prototypes

| Allocation Strategy | Wyoming Prototype and Programs |
| :--- | :--- |
| Small Class Sizes (15 in primary grades) | Class size of 16 in elementary schools, 21 in <br> middle schools, and 21 in high schools (see Table <br> $6)$ |
| Small School Size | Wyoming schools are generally small |
| Pre-Kindergarten/Kindergarten | Half-day Kindergarten |
| Early Reading Intervention | Wyoming Reading Assessment and Instruction <br> Program |
| Teacher Resources/Planning | Additional funds are provided for specialists and <br> trainers to teach art, music, library, and physical <br> education |
| Professional Development | Provides \$1,50022 per teacher in 1997 model |
| Comprehensive Strategy (including one- <br> to-one tutoring) | Funding for specialists results in an overall pupil- <br> teacher ratio of 14.4:1in elementary schools along <br> with funding for the Wyoming Reading <br> Assessment and Instruction Program |

[^12]Table 6 further illustrates the prototype class sizes and pupil-teacher ratios as well as data showing how Wyoming schools have allocated their resources.

Table 6: Analysis of Pupil-Teacher Ratios by Type of School: 2000-01
$\left.\begin{array}{|l|c|c|c|c|c|}\hline & & \begin{array}{c}\text { Prototype } \\ \text { Pupil- } \\ \text { Teacher } \\ \text { School } \\ \text { Type }\end{array} & \begin{array}{c}\text { Prototype } \\ \text { Class Size }\end{array} & \begin{array}{c}\text { Average } \\ \text { Pupil- } \\ \text { Teacher } \\ \text { Ratio (PTR) }\end{array} & \begin{array}{c}\text { Number of } \\ \text { Schools } \\ \text { Below } \\ \text { Prototype } \\ \text { Class Size }\end{array}\end{array} \begin{array}{c}\text { Number of } \\ \text { Schools with } \\ \text { PTR Below 15 }\end{array}\right]$

SOURCE: Adapted from data provided by Ron Svee and the Small Schools Association
To be most effective Wyoming districts with concentrations of at-risk students should (and could) provide additional support in the form of even smaller classes in the primary grades, as suggested by research, provide appropriate professional development to teachers and staff, or provide additional certificated staff to those schools and classes with concentrations of at-risk students rather than equalize resources to all schools. For instance, the Success for All/Roots and Wings (SFA) school reform model, perhaps the most cost-intensive of the whole school reform models, recommends that for a school with a high percentage of Title I students (which SFA defines as 75-100 percent), has resources to tutor $30-60$ percent of a school's primary grade students. For less-disadvantaged schools, the schools should have the resources to tutor at least 30 percent of its first graders. These resource allocation strategies are, as the researchers point out, very expensive. Though, as Table 5 shows, most are currently possible with existing resources in Wyoming through the school prototypes.

Few schools in Wyoming are larger than 600 students, and most elementary school are considerably smaller. Using 2000-2001 enrollment figures, 24.5 percent of Wyoming elementary schools were larger than the prototype size of 288 students. Including schools that serve sparsely located families, the average elementary school size was 183.9 students. The average Wyoming middle school was 280.3 students; more than one-third ( 37.3 percent) of middle schools were larger than the prototype models. Wyoming high schools averaged 353.0 students; only 20.8 percent of high schools exceeded the prototype model of 600 students. For those rare schools that are larger than the prototypes, several strategies, such as schools within a school and whole school reform models, are available to provide greater amounts of adult-to-student interactions.

The most common approach that states use to fund at-risk programs is to use pupil weights. State funding systems that use weighting factors for their compensatory education and limited English proficiency programs typically use a weight of 0.25 for each at-risk student to
pay for intervention strategies such as the ones listed above. ${ }^{23}$ The weights used in other states tend to be predicated on funding bases that are much lower than what is provided in the Wyoming Cost-Based Block Grant. In those states, the weights are primarily used to provide additional funding to schools to implement those additional strategies already provided in the Wyoming base: lowering class sizes (to levels larger than those specified in the Wyoming prototype schools), additional professional development, additional specialized teachers and aides, and additional discretionary resources to teachers.

## Recommendations

This section details MAP's specific recommendations for funding programs to meet the needs of at-risk students in Wyoming schools.

## Identifying Students Who Are At Risk

MAP recommends using the proportion of students who are eligible for free and reducedprice meals or are limited English speaking as an effective proxy for the presence of students at risk of educational failure. This is consistent with the practice of the U.S. Department of Education, other state governments, and researchers in the field, and was also used by educators determining necessary resources in developing the Cost-Based Block Grant. Because of the ambiguous nature of "at riskness," however, local educators should be left to determine the most appropriate methods of identifying and serving all students who may be at risk in their schools and districts.

## Funding At-Risk Characteristics, Not School Failure

One funding option might be to tie extra resources to the number of students who are not succeeding academically, but this option is based on the faulty assumption that all student failure is entirely the result of student characteristics. Moreover, rewarding schools for the number of failing students would provide little incentive for districts to decrease the number of such students. To provide additional resources to a school in this case would reward failure and channel scarce resources into failing systems where there is little reason to predict improved results. All things being equal, the schools with the least effective programs would receive the most funding, and the schools with the most effective programs would receive the least. Thus MAP recommends focusing funding on schools with concentrations of students most likely to be at risk of academic failure because of personal and background factors rather than because of an inadequate educational program.

[^13]
## At-Risk Secondary School Students

Citing the opinion of the trial court, the Supreme Court indicated its concern that free and reduced-lunch counts may undercount the number of economically disadvantaged youth, particularly at the secondary level. Such concerns persist despite the fact that the number and percentage of students eligible for free and reduced-price lunch-eligibility based on household income-tend to decline as students progress through the educational system because as their parents gain work experience, family income tends to increase.

However, MAP recognizes that there may be a certain level of under-participation of students at the secondary level in the free and reduced-lunch program. In its recommendation for determining the number of students and concentration of such students, MAP utilizes eligibility for the program, not program participation, enabling schools to use a range of methods to capture students who are eligible for the program but may not participate. In our work in other states and school districts we have observed effective methods including matching sibling data within the school or district (if a younger sibling is eligible, so is an older sibling) and calling parents for information (making it clear that program participation is voluntary but that determining eligibility is important for funding and programmatic purposes).

## Concentration Indicators

To address the Court's concerns about a precipitous cutoff point for funding eligibility in the EDY and LES programs, MAP proposes a new at-risk supplement that begins generating funds for a school that has an above-average concentration of LES or eligible for free or reducedprice lunch students, and continues to increase funding as the concentration of such students increases. The formula-based increases are based on research that suggests more resources are needed for higher concentrations of identified children. There are eight acceleration points on the curve; when the proportion of at-risk students exceeds a point, the per-pupil funding is increased to reflect the growing concentration so that educators can provide appropriate services. ${ }^{24}$ Since it is possible for a student to be counted under both criteria (EDY and LES), schools must use an unduplicated count to determine their proportion of at-risk students.

Once again, it is important to note that MAP is not proposing that funding be used only to serve students who are eligible for free and reduced-price lunch or are limited English speaking. These measures are merely proxies for the level of students in the school who are likely to be at risk. Moreover, continuing to provide this funding through the block grant gives schools and districts maximum flexibility in meeting the needs of the children they identify as being at risk.

## Cost-Based Funding for At-Risk Students

[^14]In this report, MAP has presented interventions that have proven effective for at-risk students, including those that are effective in schools with high concentrations of at-risk students. Consistent with the best available research and educational practices, the funding level is costbased as it provides a level of funding deemed appropriate to implement the most cost-intensive of interventions. MAP compared the resources described in the literature to those already in existence through the Wyoming Cost-Based Block Grant. Though extremely resource-intensive, most of the listed interventions can be accommodated with current funding through the CostBased Block Grant through the efforts made by the developers of the school prototypes in 1996 to include adequate resources to meet the needs of an average number of at-risk children in a school. The Cost-Based Block Grant prototypes were developed assuming an average concentration (Wyoming average concentrations of free and reduced-lunch eligible and limited English speakers). Therefore, supplemental at-risk funding will be generated by those schools that have higher-than-average concentrations of at-risk students and provided to the districts on a per-pupil basis as part of their block grant. Appendix A provides examples of these interventions, their estimated costs, and how the Cost-Based Block Grant along with the at-risk supplemental funding would accommodate their implementation.

To determine the level of funding generated by schools, MAP proposes the use of the 0.25 weight for schools at the very top of the at-risk proportion scale-a weight typically found in the research literature and used by other states that fund their at-risk programs in this manner. To illustrate, if the weight of 0.25 is applied to a per-pupil consolidated prototype value of $\$ 7,000^{25}$, the resulting figure is $\$ 8,750$ (an additional $\$ 1,750$ ) per pupil. ${ }^{26}$ Consequently, the $\$ 8,750$ per pupil is only provided at the highest concentrations of at-risk students, with lower per-pupil funding provided at lower concentrations. Funding levels to lower concentrations of atrisk students is derived from this maximum adjustment of $\$ 8,750$ and provided to districts according to the cost of appropriate services to those concentrations.

Given the already high level of per-pupil expenditures in Wyoming, the supplement provided through this program should be adequate to implement any research-based intervention known to be effective with at-risk students, even to those schools with the highest concentrations of at-risk students. This cost estimation allows districts, especially those that have schools with very high concentrations of at-risk students, tremendous flexibility in ensuring that students whom they consider at risk receive appropriate services. A district wanting to effectively educate at-risk students should provide additional resources to those schools and classes with the greatest need, rather than equalizing resources across all students.

## At-Risk Supplemental Funding Formula

Table 7 and Table 8 illustrate the proposed per-pupil funding levels and concentration divisions. As before, schools generate these funds, but the total funding generated is aggregated by district and included in each district's block grant funding. The marginal at-risk funding adjustments increase as the concentration of at-risk students increases above the state average

[^15]concentration of at-risk students ${ }^{27}$ and correspond to the cost of providing appropriate services to that concentration of at-risk students. The adjustments are computed by multiplying the factor weight corresponding to the concentration of at-risk students with the maximum at-risk adjustment of $\$ 1,750 .{ }^{28}$ This is then multiplied by the marginal number of at-risk students to estimate the level of funding provided. The maximum at-risk adjustment is derived from the funding weight found in the research literature and utilized by many states to fund at-risk interventions: 25 percent of the base funding amount.

Under this model, using enrollment figures from 2000-01, total funding would amount to between $\$ 4.0$ million and $\$ 6.6$ million if the maximum adjustment is $\$ 1,750 .{ }^{29}$ If the estimated funding for the Reading Assessment and Intervention program is added, total at-risk funding would total between $\$ 7.5$ million and $\$ 10.1$ million. This compares to $\$ 4,365,869$ in combined EDY and LES expenditures for 1999-2000. ${ }^{30}$ This increase in at-risk funding arises from the addition of the Reading Assessment and Intervention categorical program and from providing atrisk supplemental funding to those schools with concentrations of at-risk students that did not qualify under the former EDY and LES criteria.

Table 7: At-Risk Funding Formula

| If the percentage of at-risk students is: |  |  |
| :---: | :---: | :---: |
| Greater than | But less than | Per pupil as a percent of the <br> maximum adjustments (\%) is: |
| 27.98 | 30.00 | 10.0 |
| 30.00 | 35.00 | 17.5 |
| 35.00 | 40.00 | 35.0 |
| 40.00 | 45.00 | 45.0 |
| 45.00 | 55.00 | 55.0 |
| 55.00 | 65.00 | 65.0 |
| 65.00 | 75.00 | 85.0 |
| 75.00 | 100.00 | 100.0 |

Note: At-risk student count are those who qualify for free and reduced-price lunch, assuming that the count of limited English speaking students is captured by free and reduced-price lunch eligible count.

[^16]Table 8: At-Risk Funding Formula

| If the percentage of at-risk students is: |  | Per pupil as a percent of the <br> maximum adjustments (\%) is: |
| :---: | :---: | :---: |
| Greater than | But less than |  |
| 30.80 | 35.00 | 35.0 |
| 35.00 | 40.00 | 45.0 |
| 40.00 | 45.00 | 55.0 |
| 45.00 | 50.00 | 55.0 |
| 50.00 | 55.00 | 65.0 |
| 55.00 | 65.00 | 85.0 |
| 65.00 | 75.00 | 100.0 |
| 75.00 | 100.0 |  |

Note: At-risk students are those who qualify for free and reduced-price lunch or are limited English speaking, assuming no overlap between the two populations.

The revised model funds at-risk students regardless of their grade level, so an elementary school and high school with the same number of students and the same concentration of at-risk students would generate the same amount of at-risk funding for the district. This may seem to overfund secondary schools, which have the option of implementing alternative schools that generate the small schools adjustment, but represents a reasonable balance for the fact that fewer children who qualify for free and reduced-price lunches may be willing to identify themselves at the secondary school level. It is up to the district, then, to allocate resources to its schools and to articulate district-wide goals and strategies to its schools in ways most beneficial to the needs of its at-risk students.

## Summary of Recommendations

1. At-risk funding would be based on the unduplicated count of students qualifying for free and reduced-price lunch or who are limited English speaking.
2. Funding is generated based on the number of eligible students in each school, but provided to each district through a block grant to enhance flexibility in programs to serve at-risk students.
3. Because the funding prototypes assume an average number of at-risk students in each school, the funding model only provides additional resources when the proportion of free and reduced-price lunch eligible and limited English speaking students exceeds the state average.
4. Additional funding is provided as the concentration of free and reduced-price eligible and limited English speaking students increases in a school. This is done on a marginal basis using eight acceleration points. Students between the first and second acceleration point generate one amount of money, while students between the second and third acceleration point generate a higher amount of revenue, and so on.
5. At the highest acceleration point, each student would generate an amount equal to 25 percent of the consolidated prototype funding level. At lower acceleration points funding would be a smaller proportion of that figure.
6. Our cost estimate for this program ranges from a low of $\$ 4.0$ million to a high of $\$ 6.5$ million assuming a consolidated prototype funding level of $\$ 7,000$ and the resulting at-risk funding level of $\$ 1,750$ at the highest concentration level.
7. The actual cost of this program will not be known until MAP has estimated the prototype cost and has access to an unduplicated count of students who are eligible for free and reduced-price lunch or are limited English speaking.

## Appendix A: Cost Estimates of Sample Interventions for At-Risk Students

MAP compiled examples of programs and interventions utilized by different schools and districts across the nation. We are not advocating for the implementation of any such programs; instead these are provided for illustration purposes only to show program resource requirements and how Wyoming's Cost-Based Block Grant and the at-risk supplemental funding accommodate those costs. Programs such as these determined the appropriate funding provided for in the at-risk supplemental funding model (dollar amounts by school size and concentration levels shown in Appendix B).

Additionally, these estimates are made assuming minimal redirection of base resources, but we know from school reform research literature and extensive experience that the most effective interventions are those that change the way base resources are allocated rather than just adding something on the top. Under most circumstances, many of the research based reforms could be implemented by many Wyoming schools without additional funding.

In addition to the at-risk supplemental funding, the Wyoming Reading and Assessment Program (WRAP) will provide $\$ 167$ per student. This money, however, is categorical in nature. Because of the categorical nature of this program, its funds might not be used for purposes outside of those detailed in WRAP.

These programs and interventions are examples of many different programs being put into use by schools across the nation. If a school in Wyoming is struggling to provide an effective education program to its at-risk students, these programs, and others like them, could be implemented to serve these students.

## Program Name

## Success for All/Roots and Wings Comprehensive School Model

Target Population
Elementary school with high concentrations of at-risk students

## Major Resource Components

Whole school reform model with a comprehensive curriculum for schools with high concentrations of at-risk students. Success for All also provides a version for schools with high concentrations of language minority students. Full-time facilitator, parent liaison, reduced class sizes, social worker, materials, training, and consultation. Resources to tutor 30-60 percent of primary grade students. Costs of implementation are shown for high-need schools (at-risk concentration over 75 percent) and for moderate-need schools (at-risk concentration approximately 50 percent).

Estimated Costs of Implementation

|  | High-Need | Prototype | e Moderate-Need | Prototype |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Facilitator | \$41,433 | MAP | \$41,433 | MAP |  |
| Tutors |  |  |  |  |  |
| One full-time teacher | \$41,433 | WRAP | \$41,433 | WRAP |  |
| Aide | \$24,612 (2.0) | MAP | \$12,306 (1.0) | MAP |  |
| Social Worker | \$41,433 (1.0) | MAP | \$20,716 (0.5) | MAP |  |
| Parent Liaison | \$12,306(1.0) |  | \$6,153 (0.5) | MAP |  |
| Attendance Aide | \$12,306 (1.0) |  | \$6,153 (0.5) | MAP |  |
| Materials and Training | g \$33,000 |  | 0,000(MAP) \$33,000 |  | 0,000(MAP) |
| Staff Training Days | \$11,500 |  | \$11,500 | MAP |  |

Total \$195,873 \$49,112 \$172,694 \$13,434
MAP prototype models and the new Wyoming Reading and Assessment Program funding of $\$ 167$ per student could accommodate many of the components of the Success for All/Roots and Wings school model. Accommodated by the model and the categorical program are the facilitator, tutors (teacher and aides), social worker, and portions of the materials and training. We included WRAP funding for the reading teachers and tutors included in the Success for All/Roots and Wings comprehensive model.

For the high-need school, the incremental cost of implementing the SFA model would be $\$ 49,112$. The at-risk supplemental funding at $\mathbf{5 0 - 5 5}$ percent at-risk student concentration (a moderate-need school by SFA standards) would be adequate to implement the full program.

For the moderate-need school, the incremental cost of implementing the SFA school model would be $\$ 13,434$. The at-risk supplemental funding at approximately 40 percent at-risk student concentration would be adequate to implement a partial version of the program.

## Program Name

Full-Day Kindergarten

## Target Population

Kindergarten students in schools with high concentrations of at-risk students.

## Major Resource Components

To accommodate class sizes of 12, two additional teachers would need to be allocated to kindergarten classrooms in the prototypical elementary school. This could be done by reallocating resources within the school by expanding class sizes in the $4^{\text {th }}$ and $5^{\text {th }}$ grades to 24 , still within research-recommended levels. To reduce the burden on the individual school, one or more teachers could be reallocated from other district schools.

Estimated Costs of Implementation
Two full-time teachers

Salary and Benefits
Total Salary and Benefits
Supplies and Materials
Equipment
Total S,M, and E
Total Cost of Implementation
\$41,433 (2.0)
\$82,866
\$215 per ADM ( * 24 additional ADM)
$\$ 131$ per ADM ( * 24 additional ADM)
\$8,304
\$91,170

The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at $65-70$ percent concentration in an elementary school prototype would be adequate without the reading program funding.

## Program Name <br> Pre-Kindergarten

Target Population
Preschool-age children in areas with high concentrations of at-risk students.
Major Resource Components
Assume 48 pre-kindergarten students attending school half-time (24 ADM). Require one additional full-time teacher and four aides.

## Estimated Costs of Implementation

Full-time teacher
Salary and Benefits \$41,433
Aides
Salary and Benefits $\quad \$ 12,306$ (4.0)
Total Salary and Benefits
\$90,657
Supplies and Materials
\$215 per ADM ( * 24 additional ADM)
Equipment
$\$ 131$ per ADM ( * 24 additional ADM)
Total S,M, and E
\$8,304

Total Cost of Implementation $\mathbf{\$ 9 8 , 9 6 1}$
The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at $65-70$ percent concentration in an elementary school prototype would be adequate without the reading program funding.

## Program Name

Davis County Indian Homework Centers Program ${ }^{31}$
Target Population
Native-American students grades 1-12
Major Resource Components
One-to-one after school tutoring.
For 60 students: 10 part-time tutors and one part-time tutor supervisor

## Estimated Costs of Implementation

10 part-time tutors
Salary per instructional aide \$ 12,306
Total Salary for tutors
\$123,060

One part-time tutor supervisor
Salary per half-time teacher $\$ \mathbf{1 7 , 2 3 0}$

| Recurrent Annual Training | $\mathbf{\$}$ | $\mathbf{1 , 0 0 0}$ |
| :--- | :--- | ---: |
| Supplies and Materials | $\mathbf{\$}$ | $\mathbf{1 , 0 0 0}$ |
| Total Cost of Implementation | $\mathbf{\$ 1 4 2 , 2 9 0}$ |  |

The Davis County (Utah) School District estimated staffing costs to be $\$ 40,240$ per year which would reduce the overall cost of implementing this program to $\$ 42,240$ per year.

The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at approximately 75 percent concentration in an elementary school prototype would be adequate without the reading program funding.

[^17]
## Program Name

DeLasalle Model ${ }^{32}$

## Target Population

Students who are at risk or who have already dropped out of grades 9-12.

## Major Resource Components

Comprehensive education model with small class sizes (17-to-1 pupil-teacher ratio), counseling, vocational skill training, and individualized learning. To serve 160 students: nine teaching positions, five support staff, supplies and materials to achieve recommended pupil-teacher ratio.

## Estimated Costs of Implementation

Wyoming pupil-teacher ratio prototype exists at 21-to-1 for secondary schools. Three-fourths of Wyoming high schools have pupil-teacher ratios below 15.

Additional costs may come from supplies and materials and professional development and training as recommended by the program developers. Most Wyoming schools could already accommodate the staffing requirements for this program. For those schools that further reduce staffing levels to the programmatic recommended pupil-teacher ratio, this would require hiring six additional full-time teachers.

Full-time teacher
Salary and Benefits
Total Teachers
\$ 41,433
$\mathbf{\$ 2 4 8 , 5 9 8}$

Supplies and Materials \$ 2,500
Professional Development \$ 2,500
Total Cost of Implementation $\mathbf{\$ 2 5 3 , 5 9 8}$
The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at approximately 70 percent concentration in a high school prototype would be adequate without the reading program funding.

[^18]
## Program Name

Career Opportunities Motivated Through Educational Technology (COMET) ${ }^{33}$
Target Population
Middle school with high concentrations of at-risk students

## Major Resource Components

School within a school approach with class size of 15 (half the size of other district schools), intensive counseling.

## Estimated Costs of Implementation

Average pupil-teacher ratio in Wyoming middle schools was 13.06-to-1. The prototypical pupilteacher ratio is 15.4 -to- 1 . In Wyoming, 64 of 72 middle schools had class sizes below the prototype of class size of 21 . A reallocation of resources within the district could accommodate the recommended class size with minimal effects throughout the district system. To accommodate further reduction in class size, assume hiring two full-time teachers in a prototypical middle school and an additional social worker beyond the prototype allocation.

Salary per full-time teacher $\$ 41,433$
For two full-time teachers \$82,866

Social Worker
\$ 41,433
Total Cost of Implementation $\mathbf{\$ 1 2 4 , 2 9 9}$
The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at approximately 80 percent concentration in a middle school prototype would be adequate without the reading program funding.

[^19]
## Program Name

## Early Intervention for School Success ${ }^{\mathbf{3 4}}$

Target Population
Kindergarten classroom

## Major Resource Components

Professional development training for teachers, support staff, and parents on basic knowledge of child growth and development and basic strategies for application in the kindergarten classroom.

## Estimated Cost of Implementation

$\mathbf{\$ 3 , 0 1 0}$ for a school with four kindergarten classes, reduced costs after the first year
The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at approximately 35 percent concentration in an elementary school prototype would be adequate without the reading program funding.

## Program Name

Tech Prep Program ${ }^{35}$
Target Population
Secondary students

## Major Resource Components

Hiring new staff not necessary. A program designed to enable secondary students to complete higher-level academic and technical/vocational course sequences. Suggested costs for program with one community college and one school district.

Estimated Costs of Implementation
$\mathbf{\$ 1 5 , 0 0 0}$ for planning activities, staff development, and marketing
The at-risk supplemental funding and funding from the Wyoming Reading and Assessment Program provide adequate funding for full implementation. The at-risk supplemental funding at approximately 37 percent concentration in a high school prototype would be adequate without the reading program funding.

[^20]
## Appendix B: At-Risk Supplemental Funding by School Enrollment and AtRisk Concentration

| School Size | Concentration (\%) |  | 40\% | 45\% | 50\% | 55\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 30\% | 35\% |  |  |  |  |
| 100 | \$353.50 | \$1,884.75 | \$4,947.25 | \$8,884.75 | \$13,697.25 | \$18,509.75 |
| 200 | \$707.00 | \$3,769.50 | \$9,894.50 | \$17,769.50 | \$27,394.50 | \$37,019.50 |
| 250 | \$883.75 | \$4,711.88 | \$12,368.13 | \$22,211.88 | \$34,243.13 | \$46,274.38 |
| 288 | \$1,018.08 | \$5,428.08 | \$14,248.08 | \$25,588.08 | \$39,448.08 | \$53,308.08 |
| 300 | \$1,060.50 | \$5,654.25 | \$14,841.75 | \$26,654.25 | \$41,091.75 | \$55,529.25 |
| 350 | \$1,237.25 | \$6,596.63 | \$17,315.38 | \$31,096.63 | \$47,940.38 | \$64,784.13 |
| 400 | \$1,414.00 | \$7,539.00 | \$19,789.00 | \$35,539.00 | \$54,789.00 | \$74,039.00 |
| 450 | \$1,590.75 | \$8,481.38 | \$22,262.63 | \$39,981.38 | \$61,637.63 | \$83,293.88 |
| 500 | \$1,767.50 | \$9,423.75 | \$24,736.25 | \$44,423.75 | \$68,486.25 | \$92,548.75 |
| 550 | \$1,944.25 | \$10,366.13 | \$27,209.88 | \$48,866.13 | \$75,334.88 | \$101,803.63 |
| 600 | \$2,121.00 | \$11,308.50 | \$29,683.50 | \$53,308.50 | \$82,183.50 | \$111,058.50 |
| 650 | \$2,297.75 | \$12,250.88 | \$32,157.13 | \$57,750.88 | \$89,032.13 | \$120,313.38 |
| 700 | \$2,474.50 | \$13,193.25 | \$34,630.75 | \$62,193.25 | \$95,880.75 | \$129,568.25 |
| 750 | \$2,651.25 | \$14,135.63 | \$37,104.38 | \$66,635.63 | \$102,729.38 | \$138,823.13 |
| 800 | \$2,828.00 | \$15,078.00 | \$39,578.00 | \$71,078.00 | \$109,578.00 | \$148,078.00 |
| 850 | \$3,004.75 | \$16,020.38 | \$42,051.63 | \$75,520.38 | \$116,426.63 | \$157,332.88 |
| 900 | \$3,181.50 | \$16,962.75 | \$44,525.25 | \$79,962.75 | \$123,275.25 | \$166,587.75 |
| 950 | \$3,358.25 | \$17,905.13 | \$46,998.88 | \$84,405.13 | \$130,123.88 | \$175,842.63 |
| 1000 | \$3,535.00 | \$18,847.50 | \$49,472.50 | \$88,847.50 | \$136,972.50 | \$185,097.50 |
| 1050 | \$3,711.75 | \$19,789.88 | \$51,946.13 | \$93,289.88 | \$143,821.13 | \$194,352.38 |
| 1100 | \$3,888.50 | \$20,732.25 | \$54,419.75 | \$97,732.25 | \$150,669.75 | \$203,607.25 |
| 1150 | \$4,065.25 | \$21,674.63 | \$56,893.38 | \$102,174.63 | \$157,518.38 | \$212,862.13 |
| 1200 | \$4,242.00 | \$22,617.00 | \$59,367.00 | \$106,617.00 | \$164,367.00 | \$222,117.00 |
| 1250 | \$4,418.75 | \$23,559.38 | \$61,840.63 | \$111,059.38 | \$171,215.63 | \$231,371.88 |
| 1300 | \$4,595.50 | \$24,501.75 | \$64,314.25 | \$115,501.75 | \$178,064.25 | \$240,626.75 |
| 1350 | \$4,772.25 | \$25,444.13 | \$66,787.88 | \$119,944.13 | \$184,912.88 | \$249,881.63 |
| 1400 | \$4,949.00 | \$26,386.50 | \$69,261.50 | \$124,386.50 | \$191,761.50 | \$259,136.50 |
| 1450 | \$5,125.75 | \$27,328.88 | \$71,735.13 | \$128,828.88 | \$198,610.13 | \$268,391.38 |
| 1500 | \$5,302.50 | \$28,271.25 | \$74,208.75 | \$133,271.25 | \$205,458.75 | \$277,646.25 |


| $\begin{aligned} & \text { School } \\ & \text { Size } \end{aligned}$ | 60\% | 65\% | 70\% | 75\% | 80\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100 | \$24,197.25 | \$29,884.75 | \$37,322.25 | \$44,759.75 | \$53,509.75 |
| 200 | \$48,394.50 | \$59,769.50 | \$74,644.50 | \$89,519.50 | \$107,019.50 |
| 250 | \$60,493.13 | \$74,711.88 | \$93,305.63 | \$111,899.38 | \$133,774.38 |
| 288 | \$69,688.08 | \$86,068.08 | \$107,488.08 | \$128,908.08 | \$154,108.08 |
| 300 | \$72,591.75 | \$89,654.25 | \$111,966.75 | \$134,279.25 | \$160,529.25 |
| 350 | \$84,690.38 | \$104,596.63 | \$130,627.88 | \$156,659.13 | \$187,284.13 |
| 400 | \$96,789.00 | \$119,539.00 | \$149,289.00 | \$179,039.00 | \$214,039.00 |
| 450 | \$108,887.63 | \$134,481.38 | \$167,950.13 | \$201,418.88 | \$240,793.88 |
| 500 | \$120,986.25 | \$149,423.75 | \$186,611.25 | \$223,798.75 | \$267,548.75 |
| 550 | \$133,084.88 | \$164,366.13 | \$205,272.38 | \$246,178.63 | \$294,303.63 |
| 600 | \$145,183.50 | \$179,308.50 | \$223,933.50 | \$268,558.50 | \$321,058.50 |
| 650 | \$157,282.13 | \$194,250.88 | \$242,594.63 | \$290,938.38 | \$347,813.38 |
| 700 | \$169,380.75 | \$209,193.25 | \$261,255.75 | \$313,318.25 | \$374,568.25 |
| 750 | \$181,479.38 | \$224,135.63 | \$279,916.88 | \$335,698.13 | \$401,323.13 |
| 800 | \$193,578.00 | \$239,078.00 | \$298,578.00 | \$358,078.00 | \$428,078.00 |
| 850 | \$205,676.63 | \$254,020.38 | \$317,239.13 | \$380,457.88 | \$454,832.88 |
| 900 | \$217,775.25 | \$268,962.75 | \$335,900.25 | \$402,837.75 | \$481,587.75 |
| 950 | \$229,873.88 | \$283,905.13 | \$354,561.38 | \$425,217.63 | \$508,342.63 |
| 1000 | \$241,972.50 | \$298,847.50 | \$373,222.50 | \$447,597.50 | \$535,097.50 |
| 1050 | \$254,071.13 | \$313,789.88 | \$391,883.63 | \$469,977.38 | \$561,852.38 |
| 1100 | \$266,169.75 | \$328,732.25 | \$410,544.75 | \$492,357.25 | \$588,607.25 |
| 1150 | \$278,268.38 | \$343,674.63 | \$429,205.88 | \$514,737.13 | \$615,362.13 |
| 1200 | \$290,367.00 | \$358,617.00 | \$447,867.00 | \$537,117.00 | \$642,117.00 |
| 1250 | \$302,465.63 | \$373,559.38 | \$466,528.13 | \$559,496.88 | \$668,871.88 |
| 1300 | \$314,564.25 | \$388,501.75 | \$485,189.25 | \$581,876.75 | \$695,626.75 |
| 1350 | \$326,662.88 | \$403,444.13 | \$503,850.38 | \$604,256.63 | \$722,381.63 |
| 1400 | \$338,761.50 | \$418,386.50 | \$522,511.50 | \$626,636.50 | \$749,136.50 |
| 1450 | \$350,860.13 | \$433,328.88 | \$541,172.63 | \$649,016.38 | \$775,891.38 |
| 1500 | \$362,958.75 | \$448,271.25 | \$559,833.75 | \$671,396.25 | \$802,646.25 |


| School Size | 85\% | 90\% | 95\% | 100\% |
| :---: | :---: | :---: | :---: | :---: |
| 100 | \$62,259.75 | \$71,009.75 | \$79,759.75 | \$88,509.75 |
| 200 | \$124,519.50 | \$142,019.50 | \$159,519.50 | \$177,019.50 |
| 250 | \$155,649.38 | \$177,524.38 | \$199,399.38 | \$221,274.38 |
| 288 | \$179,308.08 | \$204,508.08 | \$229,708.08 | \$254,908.08 |
| 300 | \$186,779.25 | \$213,029.25 | \$239,279.25 | \$265,529.25 |
| 350 | \$217,909.13 | \$248,534.13 | \$279,159.13 | \$309,784.13 |
| 400 | \$249,039.00 | \$284,039.00 | \$319,039.00 | \$354,039.00 |
| 450 | \$280,168.88 | \$319,543.88 | \$358,918.88 | \$398,293.88 |
| 500 | \$311,298.75 | \$355,048.75 | \$398,798.75 | \$442,548.75 |
| 550 | \$342,428.63 | \$390,553.63 | \$438,678.63 | \$486,803.63 |
| 600 | \$373,558.50 | \$426,058.50 | \$478,558.50 | \$531,058.50 |
| 650 | \$404,688.38 | \$461,563.38 | \$518,438.38 | \$575,313.38 |
| 700 | \$435,818.25 | \$497,068.25 | \$558,318.25 | \$619,568.25 |
| 750 | \$466,948.13 | \$532,573.13 | \$598,198.13 | \$663,823.13 |
| 800 | \$498,078.00 | \$568,078.00 | \$638,078.00 | \$708,078.00 |
| 850 | \$529,207.88 | \$603,582.88 | \$677,957.88 | \$752,332.88 |
| 900 | \$560,337.75 | \$639,087.75 | \$717,837.75 | \$796,587.75 |
| 950 | \$591,467.63 | \$674,592.63 | \$757,717.63 | \$840,842.63 |
| 1000 | \$622,597.50 | \$710,097.50 | \$797,597.50 | \$885,097.50 |
| 1050 | \$653,727.38 | \$745,602.38 | \$837,477.38 | \$929,352.38 |
| 1100 | \$684,857.25 | \$781,107.25 | \$877,357.25 | \$973,607.25 |
| 1150 | \$715,987.13 | \$816,612.13 | \$917,237.13 | \$1,017,862.13 |
| 1200 | \$747,117.00 | \$852,117.00 | \$957,117.00 | \$1,062,117.00 |
| 1250 | \$778,246.88 | \$887,621.88 | \$996,996.88 | \$1,106,371.88 |
| 1300 | \$809,376.75 | \$923,126.75 | \$1,036,876.75 | \$1,150,626.75 |
| 1350 | \$840,506.63 | \$958,631.63 | \$1,076,756.63 | \$1,194,881.63 |
| 1400 | \$871,636.50 | \$994,136.50 | \$1,116,636.50 | \$1,239,136.50 |
| 1450 | \$902,766.38 | \$1,029,641.38 | \$1,156,516.38 | \$1,283,391.38 |
| 1500 | \$933,896.25 | \$1,065,146.25 | \$1,196,396.25 | \$1,327,646.25 |

## Appendix C: Study Methodology

In order to develop a cost-based approach to funding programs for at-risk children, MAP conducted an extensive survey of existing practice in Wyoming schools and school districts. In addition, we conducted a comprehensive review of the literature on programs for serving children who are at risk and looked closely at the ways other states approach funding for at-risk programs.

The initial step in our analysis was to conduct site visits in 30 schools to develop a better understanding of how at-risk children were identified and to understand what kinds of programs are provided for children so identified.

To fully understand how at-risk students are served, we identified a sample that included schools that qualified for the additional $\$ 500$ per pupil in funding through the EDY program and schools that did not qualify for the supplement, both in districts that had schools that did qualify for the supplement and in districts where no school qualified for the supplement. We also wanted to look at differences that might exist between large and small schools. The stratification of this purposive sample was:

- 17 elementary schools
$\theta 5$ schools in districts where no schools qualify for the $\$ 500$ for EDY students $\Theta 6$ in schools that qualify for the additional $\$ 500$ $\Theta 6$ in schools that do not qualify for the additional $\$ 500$ but are in districts where some schools do qualify
-7 junior high schools
$\Theta 3$ schools in districts where no schools qualify for the $\$ 500$ for EDY students $\theta 2$ in schools that qualify for the additional $\$ 500$
$\theta 2$ in schools that do not qualify for the additional $\$ 500$ but are in districts where some schools do qualify
-7 senior high schools
$\theta 3$ schools in districts where no schools qualify for the $\$ 500$ for EDY students $\theta 2$ in schools that qualify for the additional $\$ 500$
$\theta 2$ in schools that do not qualify for the additional $\$ 500$ but are in districts where some schools do qualify

The specific schools we identified for site visits are listed in Appendix B. We visited 21 schools in April and May of 2001 and visited the remaining ten schools (all of which were small schools) in conjunction with our visits related to the small school and small district adjustments. The interview protocols used at the district offices and in the schools are included as Appendices B and C. The interview write-ups developed by our interview staff are included in a separate volume.

The data collected from our site visits was integrated into our analysis of the current EDY funding program and used as we developed recommendations for revisions to the current funding system.

## Appendix D: Sample Schools For EDY Site Visits

## Elementary Schools

| School Size | Schools in Districts with no EDY Funds | Schools that Generate EDY Dollars | Schools That Don't Generate EDY Dollars In Districts With EDY Dollars |
| :---: | :---: | :---: | :---: |
| Small | Johnson \#1 <br> Kaycee Elem. <br> Weston \#7 <br> Upton Elem. | Big Horn \#1 <br> Byron Elem. <br> Weston \#1 <br> Kitty Moats Elem. | Sweetwater \#1 <br> Farson-Eden <br> Elem. <br> Laramie \#2 <br> Carpenter <br> Elem. |
| Large | Campbell \#1 <br> Pronghorn Elem. <br> Teton \#1 <br> Rendezvous Campus <br> Unita \#1 <br> North Evanston <br> Elem. | Laramie \#1 <br> Arp Elem. <br> Hebard <br> Natrona \#1 <br> North Casper Elem. <br> Albany \#1 <br> Velma Linford Elem. | Laramie \#1 <br> Deming <br> Elem. <br> Natrona \#1 <br> Park Elem. <br> Crest Hill <br> Elem. <br> Fremont \#1 South Elem. |

Junior High Schools

| School Size | Schools in Districts with no EDY Funds | Schools that Generate EDY Dollars | Schools That Don't Generate EDY Dollars In Districts With EDY Dollars |
| :---: | :---: | :---: | :---: |
| Small | Big Horn \#4 Cloud Peak Middle | Big Horn \#1 <br> Rocky Mountain Middle | Carbon \#2 Saratoga Middle School |
| Large | Unita \#1 <br> Evanston Middle <br> Campbell \#1 <br> Sage Valley Jr. High | Laramie \#1 Johnson Jr. High. | Natrona \#1 <br> C Y Junior <br> High |

## Senior High Schools

| School <br> Size |  |  |  |  |  |  |  | Schools in Districts with no <br> EDY Funds | Schools that Generate EDY <br> Dollars | Schools That <br> Don't Generate <br> EDY Dollars In <br> Districts With <br> EDY Dollars |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Small | Johnson \#1 <br> Buffalo High School | Lincoln \#2 <br> Cokeville HS | Goshen 1 <br> Southeast |  |  |  |  |  |  |  |
| Large | Teton \#1 <br> Jackson Sr. High | Big Horn \#2 <br> Lovell HS* | Laramie \#1 <br> East High |  |  |  |  |  |  |  |
|  | School |  |  |  |  |  |  |  |  |  |

## Appendix E: At Risk Site Visit District Office Interview Guide

District $\qquad$ Date of Interview $\qquad$
Person Interviewed (position) $\qquad$

1. Describe the at risk program in your district.
2. How are programs at individual schools implemented?
3. What staffing do you have at the district to support the at risk program?
a. Administrators (full and part time as well as the portion of the interviewees time devoted to the at risk program)
b. Other central office staff
c. School site staff
d. Teachers
4. Does your district receive state EDY funding? If so, how much?
5. How is that money allocated to schools in the district? Does it relate to the way the funds are raised?
6. What central office resources (other than personnel) are devoted to at risk programs?
7. Does your district receive Title I money?
8. How are those funds distributed and used?
9. Are Title I and state EDY funds used together in any way?
10. Ideally the district will have a budget for at risk programs and we can either look at it or even maybe take home a copy. We need both a dollar budget and if available, a personnel budget listing who is assigned to the at risk program, and the percentage of time devoted to each function.

## Appendix F: School Site Visit Interview Protocol

School $\qquad$ District $\qquad$
Date of Interview $\qquad$
Note to interviewer: Explain purpose of interview and study generally.

How do you identify AT RISK students?
Do you know about the new state policy that defines AT RISK as any student not meeting gradelevel standards?

If not, will that change your approach to identifying and serving students?

## I. How do you serve AT RISK students for Reading/Writing?

a. How are AT RISK students assigned to classes?
b. Who works with AT RISK students?
$\qquad$ Classroom teacher? Wher?
How much time per day?
$\qquad$ Resource teacher?
When? How much time per day?
$\qquad$ in classroom?
$\qquad$ Instructional Aide
$\qquad$ elsewhere?
$\qquad$ Tutors
When?
How much time per day?
When?
How much time per day?
$\qquad$ in classroom? $\qquad$ elsewhere?
c. When is extra instructional support time scheduled?
$\qquad$ after school? How much time per day? How many days per week?
$\qquad$ summer school $\qquad$ Saturday school $\qquad$ evening tutoring
d. How do you scaffold and accelerate learning to help students access the grade level curriculum?
e. What are the components of the reading program your school offers?

How does each component work?
What does the teacher do?
What do the students do?
How do you vary these components for AT RISK students? In terms of:
Materials?
Pacing
Assessment
Time with teacher
Other?

## f. How do you assess student progress and act on that information?

Classroom assessment tools?
Frequency?
Who sees and discusses the data?
Teacher
Teacher/student
Teacher/student/parents
Teacher/student/resource teacher
Administrators
g. If someone other than the classroom teacher serves AT RISK for reading, how are efforts coordinated?

Planning time?
After school?
Prep time/Planning periods by hiring specialist staff?
In passing-catch as catch can?
II. How do you serve AT RISK students for Mathematics?
a. How are AT RISK students assigned to classes?
b. Who works with AT RISK students for mathematics?
Classroom teacher? When? How much time per day?
$\qquad$ Resource teacher?
When?
How much time per day?
$\qquad$ in classroom? $\qquad$ elsewhere?
$\qquad$ Instructional Aide
When?
How much time per day?
$\qquad$ Tutors
When?
How much time per day?
$\qquad$ in classroom? $\qquad$ elsewhere?
c. When is extra instructional support time scheduled?
$\qquad$ after school? How much time per day? How many days per week?
$\qquad$ summer school $\qquad$ Saturday school $\qquad$ evening tutoring
d. How do you scaffold and accelerate learning to help students access the grade level curriculum?
e. What are the components of the mathematics program your school offers?

How does each component work?
What does the teacher do?
What do the students do?
How do you vary these components for AT RISK students? In terms of:
Materials?
Pacing
Assessment
Time with teacher
Other?

## f. How do you assess student progress and act on that information?

Classroom assessment tools?
Frequency?
Who sees and discusses the data?
Teacher
Teacher/student

Management Analysis and Planning, Inc.

Teacher/student/parents
Teacher/student/resource teacher
Administrators
g. If someone other than the classroom teacher serves AT RISK for mathematics, how are efforts coordinated?

Planning time?
After school?
Prep time/Planning periods by hiring specialist staff?
In passing-catch as catch can?

## III. How are Professional Development activities that focus on teaching AT RISK provided?

## A. School-based activities

Provided by teachers for each other after attending workshop or conference elsewhere? If yes, give examples of recent workshop topics.

Provided by district or state personnel at no cost to school-site budget? If yes, give examples of recent workshops.

In- classroom demonstration teaching or coaching by specialist personnel?

## B. External Professional Development activities

Attending workshops or conferences elsewhere?
If yes, identify what teachers attended this year and where held.
Teachers enrolled in college courses?
Teachers enrolled in advanced degree programs?
Teachers pursing Professional Teaching Standards Board Certification?

## Parent Education programs

What programs or services do you provide parents of AT RISK?
Who provides the service?

When are they scheduled?
How do you communicate with parents about AT RISK students/ progress?
What are progress reports based on?
What other program services do you provide for AT RISK?
Counseling?
Social worker?

Nurse/ Health program services?

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[^0]:    ${ }^{1}$ See discussion of program types in Guthrie and Smith, "Wyoming Education Finance Issues Report: Programs for Students with Special Needs (Disadvantaged, Limited English Proficient, Gifted)," May 1998.

[^1]:    ${ }^{2}$ Wyoming Department of Education, Wyoming School Accreditation Regulations, Section 4 (b).

[^2]:    ${ }^{3}$ Taken from U.S. Department of Education, Office of Educational Research and Improvement, National Institute on the Education of At-Risk Students Web site (www.ed.gov/offices/OERI/At-Risk), November 6, 2001.
    ${ }^{4}$ Taken from The Journal of Education for Students Placed At Risk (JESPAR), The Center for Social Organization of Schools, Johns Hopkins University Case Study Guidelines Web site (www.csos.jhu.edu/jespar/casestudyguidelines.htm), November 6, 2001.
    ${ }^{5}$ Greg Druian and Jocelyn A. Butler, "Effective Schooling Practices and At-Risk Youth: What the Research Shows." School Improvement Research Series, Topical Synthesis \#1, Northwest Regional Educational Laboratory, html format at www.nwrel.org/scpd/sirs/1/topsyn1.html.
    ${ }^{6}$ Taken from the Center for Research on the Education of Students Placed At Risk (CRESPAR), The Center for Social Organization of Schools, Johns Hopkins University, Web site
    (http://www.csos.jhu.edu/crespar/CReSPaR.html), November 6, 2001.

[^3]:    ${ }^{7}$ Orland, M.E. "Demographics of Disadvantage: Intensity of Childhood Poverty and Its Relationship to Educational Achievement," page 46 in J.L. Goodlad and P. Keating (Eds.), Access to Knowledge: An Agenda for Our Nation's Schools. New York, NY: The College Board.
    ${ }^{8}$ IBID.

[^4]:    ${ }^{9}$ These differences are likely to grow as a consequence of the significant increase in funding for the 2001-02 school year.

[^5]:    ${ }^{10}$ See Guthrie et. al., "A Proposed Cost-Based Block Grant Model for Wyoming School Finance," May 1997, Guthrie and Smith, "Wyoming Education Funding Adequacy Study," May 1998, and Smith, "Wyoming Education Funding Adequacy Revisited," September 1999.
    ${ }^{11}$ As documented later, many schools and districts employ more teachers than identified as necessary in the prototype models.

[^6]:    12 During one site visit, we found a district using its EDY funds to support summer school. However, the district also had a refundable but fairly substantial fee for summer school that seemed to be keeping low-income families from enrolling their children in summer school.

[^7]:    ${ }^{13}$ Wyoming Department of Education School Accreditation Regulations, Section 11. At-Risk Students.

[^8]:    ${ }^{14}$ For a summary of the literature on the impact of class size on student achievement, see Picus, 2001, chapter 4.

[^9]:    15 Based on a consensus of research literature, preschool and full-day kindergarten would be indicated only where there were substantial concentrations of poor or limited English speaking children. There is little evidence that such interventions would be cost-effective for non-poor, English-speaking children.
    ${ }^{16}$ Lyon, G. Reid, Jack M. Fletcher, Sally E. Shaywitz, Bennett A. Shaywitz, Joseph K. Torgesen, Frank B. Wood, Ann Schulte, and Richard Olson (May 2001), "Rethinking Learning Disabilities" in Chester E. Finn, Andrew J. Rotherham, and Charles R. Hokanson, ed. Rethinking Special Education for a New Century. Thomas B. Fordham Foundation and the Progressive Policy Institute, p. 270-271.
    ${ }^{17}$ Lyon (1996), p. 59.
    ${ }^{18}$ Dyer,Philip C. "Reading Recovery: A Cost-Effectiveness and Educational-Outcomes Analysis, " E'S Spectrum, 10(1), 10-19, 1992. Taken from "Reading Recovery," by Roger Sensenbaugh. ERIC Clearinghouse on Reading, English, and Communication Digest \#106, June 1995.

[^10]:    19 Pinnell, Gay Su et al. (1994). "Comparing Instructional Models for the Literacy Education of High-Risk First Grades." Reading Research Quarterly, 29(1), 8-39. Taken from "Reading Recovery," by Roger Sensenbaugh. ERIC Clearinghouse on Reading, English, and Communication Digest \#106, June 1995.
    ${ }^{20}$ The nine elementary programs currently supported by New American Schools include: ATLAS Communities, Co-NECT, Expeditionary Learning-Outward Bound, Modern Red Schoolhouse, America's Choice, Different Ways of Knowing, Turning Points, Urban Learning Centers and Root and Wings. Up-to-date summaries of these programs can be found at the New American Schools web site at http://www.naschools.org/.

[^11]:    ${ }^{21}$ The federal Comprehensive School Reform Demonstration Program is better known as "Obey- Porter" after its sponsors in Congress. The program was established in 1997 to provide additional funds to schools in poor communities (schools with high concentrations of Title I students) to purchase proven, comprehensive-or "whole school"-models for improving learning.

[^12]:    22 This will increase to approximately $\$ 1,700$ when adjusted for inflation in the new model.

[^13]:    ${ }^{23}$ Figures averaged from Gold, Steven D., David M. Smith, and Stephen B. Lawton. (1995). "Public School Finance Programs of the United States and Canada: 1993-94." New York: American Education Finance Association of Center for the Study of the States, The Nelson A. Rockefeller Institute of Government and from data provided by the Education Commission of the States through their state-level at-risk funding survey.

[^14]:    ${ }^{24}$ Essentially, this creates marginal dividing points. If a school receives $\$ 100$ per pupil for each identified pupil up to 10 percent of its enrollment and $\$ 150$ for each identified pupil above ten percent, and it has 100 students, 15 percent of whom qualify for free or reduced-price lunch or were limited English speaking, then it would receive $\$ 100$ for the first ten students and $\$ 150$ for the next five students. These marginal distinctions are used across all eight acceleration points.

[^15]:    ${ }^{25}$ The at-risk adjustment is made to the base funding level prior to adjustments for regional costs, small school, and small district, and at-risk students (to avoid endogeneity).
    ${ }^{26}$ The consolidated prototype value of $\$ 7,000$ is used for illustrative purposes only.

[^16]:    27 Average concentrations were derived using enrollment figures from 2000-01.
    28 The maximum at-risk adjustment of $\$ 1,750$ is used for illustrative purposes only, calculated by multiplying the pupil weight of 0.25 and a consolidated prototype funding level of $\$ 7,000$ per student.
    ${ }^{29}$ Because the State does not currently have unduplicated counts of EDY and LES students, we present two bounds to this estimate. The lower bound assumes that all LES students are also EDY students. The upper bound assumes that there is no overlap between EDY and LES students, that each subpopulation is mutually exclusive.
    ${ }^{30}$ EDY allocations totaled \$2,728,750 and LES allocations totaled \$1,637,119.05 for 1999-2000.

[^17]:    ${ }^{31}$ Description of program taken from "Educational Programs that Work," the catalogue of the National Diffusion Network, $21{ }^{\text {st }}$ Edition, 1995. Found at www.ed.gov/pubs/EPTW/.

[^18]:    32 IBID.

[^19]:    ${ }^{33}$ Program description taken from "How Can We Help? What We Have Learned from Evaluations of Federal Dropout-Prevention Programs," June 30, 1998. Mathematica Policy Research, Inc. Princeton, New Jersey.

[^20]:    ${ }^{34}$ IBID.
    35 IBID.

