



MANAGEMENT ANALYSIS & PLANNING, INC.

**WYOMING EDUCATION FINANCE**

**A Cost-Based Analysis of the Reading  
Assessment and Intervention Program**

Submitted to  
**Wyoming State Legislature**

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## **Introduction and Overview**

The joint education interim committee of the Legislature, in 2002, called on Management Analysis & Planning, Inc. (MAP) to conduct a study of the Reading Assessment and Intervention Program, also known as Enrolled Act 69. The purpose of the study was to establish a cost-based method of funding the program through the education resource block grant model. MAP examined the then-current method of funding Enrolled Act 69, conducted a preliminary literature review of early-grade literacy assessment and intervention programs, interviewed Wyoming Department of Education and school district staff, and provided the joint committee with a preliminary cost-based estimate for funding.

The 2003 joint education interim committee, after implementing the preliminary cost-based recommendations (Section 601 (b), Session Laws of Wyoming, 2003), called on MAP to continue study of early-grade literacy programs and to develop a cost-based adjustment to the model for consideration by the 2004 legislature (Section 601 (a), Session Laws of Wyoming, 2003). This report and recommendations are the culmination of a careful examination of the methodology used to initially fund Enrolled Act 69, a thorough review of literacy assessment and intervention programs, and interviews with Wyoming Department of Education staff and Wyoming school district personnel who have worked to implement Enrolled Act 69 and other district-based literacy programs.

### **Reading Assessment and Intervention Program (Enrolled Act 69)**

Literacy is a key ingredient to the schooling success of students. A growing body of research supports the importance of early literacy acquisition in the primary grades (K-3) to student success and to the cost-effectiveness of early literacy intervention.<sup>1</sup>

Recognizing the importance of early literacy, the federal government and many states in the nation have devoted resources specifically for early identification and intervention, when needed.<sup>2</sup> The Wyoming Legislature passed the Reading Assessment and Intervention Program (W.S. 21-3-401), also known as Enrolled Act 69, as a programmatic initiative to address literacy in the primary grades. The Wyoming Department of Education (WDE) provided the initial program cost estimates.<sup>3</sup>

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<sup>1</sup> *Preventing Reading Difficulties in Young Children*, edited by Catherine E. Snow, M. Susan Burns, and Peg Griffin. Committee on the Prevention of Reading Difficulties in Young Children, Commission on Behavioral and Social Sciences and Education, National Research Council, National Academy Press, Washington, DC, 1998.

<sup>2</sup> See for example the Texas Reading Initiative program in Texas and the Reading First program through the U.S. Department of Education.

<sup>3</sup> See Appendix I for description of Wyoming Department of Education cost estimates for Enrolled Act 69.

### ***1. Review of Enrolled Act 69 Provisions and Cost Estimates***

In examining Enrolled Act 69, we made the following observations regarding its policy prescriptions and its original cost-based estimates to the 2002 joint education interim committee:

- Enrolled Act 69 funds were provided to Wyoming school districts outside of the education resource block grant.
- Funds from Enrolled Act 69 could not be used for purposes other than early-grade literacy assessment and intervention, i.e., a categorical program.
- Reading Recovery was the research-based intervention program used to derive cost estimates; as one of many cost-intensive intervention programs, all similar in their design of one-to-one tutoring, we agree that this type of program is appropriate to derive some of the costs for effective reading intervention.
- Costs of assessment – namely teacher time – were not included in the initial cost estimates.
- Seven (7) full-time Reading Recovery Teacher Leaders and 153 Reading Recovery Teachers were included in the initial cost-based projections; these were inefficiently and inequitably allocated across all districts according to average daily membership (ADM) – unlike the Wyoming Cost-Based Block Grant that accommodates small school and small district circumstances.
- Wyoming school districts received \$167 per Kindergarten through grade two ADM; Kindergarten students were funded as though they were one, full ADM.
- Small districts, with small numbers of students in grades K-2, could not generate sufficient resources to develop or implement effective intervention programs because program funding was generated on a per-ADM basis.
- Wyoming allocated \$3,027,355 to districts in the 2001-02 school year.

We do not disagree with the use of Reading Recovery as the reading intervention program to derive cost estimates. Reading Recovery is a cost-intensive intervention program and specifying costs associated with this program would allow districts the flexibility to design and implement virtually any literacy intervention programs with similar high levels of one-to-one interaction.

However, in estimating the number of teachers needed, the WDE calculations assumed that each of the approximately 200 elementary schools would have an equal number of primary grade students; intervention-teacher allocation, therefore, would follow this equal distribution across schools. This assumption led to an inefficient and ineffective allocation of resources across the state. Many districts received insufficient funding to provide meaningful literacy assessment and/or intervention based on their low numbers of K-2 students (funding mechanism).

Additionally, the WDE estimates also calculated 45 district-level reading specialists and seven Reading Recovery Teacher Leaders under the assumption that some districts would share (which districts to share was left unspecified) or would be allocated on a partial-time basis. Again, these district-level individuals are inefficiently allocated because of the assumption that primary-school students are equally distributed across all elementary schools.

An omission from the WDE cost estimates was the costs associated with assessment, namely teacher time. We found that a minimum amount of time should be allocated to assess the literacy abilities of all primary grade students twice a year.

The WDE cost estimates also included state-level staffing allocations along with WDE overhead expenses into the per-ADM calculations to be allocated to the districts. We did not include these state-level costs, assuming that budgeting for state operations were beyond the scope of this study.

## ***2. Preliminary Recommendations***

To address many of these concerns, MAP provided these findings and a preliminary funding recommendation to the joint education interim committee in December 2002. Of primary concern, we felt that a minimum funding amount should be provided to districts to account for literacy training, assessment, and intervention. We recommended a minimum funding allocation of \$45,000 to each district.

Costs associated with the \$45,000 minimum funding allocation included approximately \$20,000 for training (fees, supplies & materials, and training time and travel). In addition, the \$45,000 minimum included approximately \$19,000 to ensure at least one, half-time intervention teacher per district, and approximately \$6,000 for assessment (time and supplies & materials).

Although we determined methodological flaws with the per-ADM funding allocation – \$167 per K-2 student – we had not sufficiently developed a more accurate cost-based funding alternative. We, therefore, recommended that the \$167 per K-2 ADM funding allocation figure continue to be used during this study while a cost-based approach alternative was developed. We recommended that the \$167 continue to be used because we agreed with the basic premise of using Reading Recovery as a cost-intensive intervention method, and therefore funds sufficient to implement almost any reading intervention program will be available to school districts.

Based on an early review of literacy program cost estimates, MAP recommended that the greater of the \$167 per ADM generated funding level or \$45,000 be provided to districts to develop and implement reading assessment and intervention programs in their districts.

The interim committee accepted the preliminary recommendations providing for a change in funding for the 2002-03 school year (Section 601 (b) (ii), Session Laws of Wyoming, 2003). Additionally, the interim committee instructed MAP to continue the development of a cost-based adjustment to be considered for the education resource block grant model by the 2004 Legislature (Section 601 (a), Session Laws of Wyoming, 2003).

## **Intervention Within the Education Resource Block Grant**

Before determining a cost-based rationale for an early-grades reading assessment and intervention program adjustment to the education resource block grant model, it is useful to consider this program in the context of existing resources that might be used for literacy intervention purposes.

### ***1. Intervention Within the Base Elementary School Prototype***

Well-managed elementary schools have a reading program that regularly assesses every student and provides extra attention for those struggling as an integral part of their instructional program. The elementary school prototype proposed as part of the education resource block grant model in 1997 was developed with small schools (288 enrollment), small class sizes (average 16), and low pupil-teacher ratios (14:1) in mind. More specifically, the elementary school prototype was developed with the idea of providing educators the ability to offer very small class sizes in the primary grades (K-3). These very small class sizes in the primary grades should enable educators to provide greater amounts of individualized attention to students and, through that individualized attention, provide early intervention where students might be struggling, including literacy.

When the adequacy of the prototypes was tested, all three adequacy-panel teams developed instructional programs that provided for a great deal of early intervention.<sup>4</sup> One group of educators developed an instructional program that provided a transitional kindergarten-first grade program; another was able to develop a program with enrichment teachers and two full-time Reading Recovery teachers; and a third group was able to develop a program with small classes in K-2 including a three-quarter time reading specialist and a half-time staff developer. A great deal of early-grade intervention was envisioned by these panels and could be provided under each of these instructional programs within the resources provided for in the base prototype.

In addition to the amount of staff provided for in the base elementary school prototype, \$27,515 (2001-02 dollars) was provided to the prototypical elementary school for professional development.<sup>5</sup> With 17.5 classroom teachers and 2.0 pupil support staff, that comes to approximately \$1,411 per certificated school staff.

Additionally, the elementary school prototype provided for \$7,477 for assessment (2001-02 dollars).<sup>6</sup> As part of the preliminary recommendations to the joint education interim committee, we estimated the costs of conducting biannual assessments of all prototype K-3 students to be approximately \$6,000. Comparing these two figures is not to imply that all assessment dollars provided for in the prototype should be allocated to literacy assessment in the primary grades.

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<sup>4</sup> For a detailed examination of the adequacy of the prototypes, see "Wyoming Education Funding Adequacy Study," May 18, 1998.

<sup>5</sup> \$24,288 was provided for professional development in the 1997 prototype. When the education resource block grant model was recalibrated to the 2001-02 school year, a WCLI factor of 1.132875 was applied to bring professional development costs up to date.

<sup>6</sup> The same WCLI factor was applied to assessment costs within the elementary school prototype during the recalibration. Assessment resources were \$6,600 in the 1997 elementary school prototype.

Rather, this is done to show that significant assessment resources are provided for in the base prototype exclusive of an additional literacy program such as the Reading Assessment and Intervention Program.

## ***2. At-Risk Students Supplemental Funding Component***

The base prototypes were developed to serve the average concentration of students from economically disadvantaged backgrounds and with limited English proficiency in Wyoming. However, for those schools with above average concentrations of at-risk students, the education resource block grant model provides for supplemental funding to districts to compensate for additional costs associated with at-risk program initiatives.<sup>7</sup>

In reviewing the literature of effective instructional programs for concentrations of at-risk students, the majority of instructional programs focused around early literacy intervention, particularly in the primary grades. Small classes and small groups (including one-to-one, teacher-student groups) showed promise in educating at-risk students in high-concentration schools.<sup>8</sup> The at-risk supplemental funding component of the education resource block grant model provides additional resources to districts, based on individual school concentrations, that would allow for highly intensive resource allocations beyond the base elementary school prototype, e.g., even smaller class sizes, greater amounts of one-to-one teacher-student interventions, more professional development, greater amounts of and more frequent assessments, and more supplies & materials, etc.

Consider the scenarios below to see how much supplemental funding is provided to a prototypical elementary school of 288 students (full ADM for Kindergarten) under different concentrations of at-risk students.<sup>9</sup>

Scenario 1: Average at-risk student concentration (27.98 percent, 80 at-risk students) would generate no supplemental funding.

Scenario 2: At-risk concentration of 35 percent (101 at-risk students) would generate approximately \$12,181 in supplemental funding.

Scenario 3: At-risk concentration of 50 percent (144 at-risk students) would generate approximately \$59,069 in supplemental funding.

Scenario 4: At-risk concentration of 75 percent (216 at-risk students) would generate approximately \$180,306 in supplemental funding.

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<sup>7</sup> For a more detailed discussion about how the at-risk student supplemental funding component operates, please see “Estimating the Costs of Services for ‘At-Risk’ Students,” submitted to the Wyoming State Legislature January 4, 2003.

<sup>8</sup> See for example programs such as Reading Recovery, the Collaborative Literacy Intervention Project (CLIP), and comprehensive school-reform initiatives such as Success for All and other New American Schools designs.

<sup>9</sup> Scenario estimates based on the unofficial 2001-02 Wyoming Cost-Based Funding Model developed by MAP. Actual dollars generated would be dependent on the final base funding figure after all components of the model were put in place and accounted for.

Scenario 5: At-risk concentration of 100 percent (288 at-risk students) would generate approximately \$322,937 in supplemental funding.

As each of these scenarios shows, a prototypical school with increasing levels of at-risk student concentration generates rapidly increasing levels of supplemental funding to develop instructional programs for the at-risk students of the school and/or for the school as a whole in addition to the resources provided for under the base prototype. In all, given preliminary 2001-02 enrollment data used for modeling, nearly \$6 million was allocated in supplemental at-risk student funding to Wyoming school districts.

### **Developing a Cost-Based Adjustment for Reading Assessment and Intervention**

Our preliminary recommendations to the joint education interim committee were the beginning of a properly constructed cost-based literacy intervention program to be considered as a funding adjustment to the education resource block grant model. We recognized the inability of small districts to generate sufficient resources through Enrolled Act 69 funding provisions to develop or enhance a meaningful reading assessment and intervention program as intended by the Legislature. We, therefore, recommended to the interim committee that a minimum of \$45,000 be provided to districts. This figure was based on preliminary cost studies of literacy intervention and assessment programs that met the intent of the Legislature when it considered its early intervention initiative.

At the time of the recommendations, the interim committee decided to fund the greater of \$45,000 or the amount generated through the \$167 per K-2 ADM allocation. By providing a \$45,000 funding minimum to each district, the state's allocations for reading assessment and intervention increased by more than \$700,000 for the 2002-03 school year.

Upon review of several of the leading reading intervention programs and initiatives, several literacy assessment programs and products, interviews with Wyoming school district personnel and WDE staff familiar with Enrolled Act 69 activity and other reading interventions, we developed the following cost-based recommendations.

#### ***1. Integrate Programmatic Funding Into the Education Resource Block Grant Model***

First, as suggested by the joint education interim committee, we recommend that funding associated with any adjustment developed for reading assessment and intervention in the early grades be rolled into the education resource block grant, but that the reporting requirements contained in Enrolled Act 69 be retained. Maintaining a separate categorical program for reading may send the message that specific attention to literacy is somehow not a part of the regular school program or that reading is funded only through Enrolled Act 69. As part of the block grant, as opposed to the original design of Enrolled Act 69, there would be no restrictions on how the funds could be utilized at the district level, thus removing the categorical nature of the original program. The advantage of providing funding in block grant form to the districts is that it allows the districts to develop programs most appropriate for local needs and circumstances.

Although sufficient resources are provided to districts based on the elementary school prototypes – the ability to construct small class size programs with individualized attention, funds for professional development and assessment as well as supplementary funding generated by those schools with above average concentrations of at-risk students – we assume that the legislature intends to continue providing extra funding to ensure specific attention to literacy instruction. Therefore, we recommend that future recalibrations of the education resource block grant integrate the cost-based recommendations set forth in this report as part of the elementary school prototype if the Legislature is intent on continuing funding this type of program initiative. Given that the education resource block grant model was recently recalibrated for the 2001-02 school year, we recommend that the cost-based recommendations set forth in this report be incorporated into the education resource block grant model as a funding adjustment. Incorporating reading assessment and intervention funding as an adjustment would allow districts and WDE staff who may be accustomed to seeing a line item of funding under Enrolled Act 69 to continue to see how much funding is directed to their district with this overall program purpose in mind.

## ***2. A Cost-Based Adjustment for Reading Assessment and Intervention***

Training is essential to the successful implementation of any literacy intervention program. Therefore, we recommend that training be provided to one staff member per school district as a literacy director or coordinator. The cost associated with providing literacy director/coordinator training is \$20,577.<sup>10</sup> The intent of providing this funding is that one individual in each district could be tasked for coordinating literacy intervention activity as well as providing coordinated literacy training to staff members across grades and across schools, if desired. This training would be provided on an annual basis so that districts may send the same individual for follow-up training or to send other district staff for the same type of training, or to allocate these training funds in a manner deemed most productive by the district.

Literacy intervention in the primary grades was the original intent of the Reading Assessment and Intervention Program. Consistent with the WDE cost estimates, we recommend an intervention model that serves 10 percent of 1<sup>st</sup> and 2<sup>nd</sup>-grade students. In a prototypical-size elementary school, this intervention model would serve approximately 10 students for one-to-one tutoring for 30 minutes each. Costs associated with this level of intervention are \$18,812, or the equivalent of one half-time teacher's base salary and benefits plus supplies and materials. Though costs were developed around the assumption that 10 percent of 1<sup>st</sup> and 2<sup>nd</sup>-grade students would be served, the block grant-nature of funding would allow districts to target their intervention to the grades and students of their choosing.

The third component of our cost-based recommendation is assessment. Unlike the WDE cost estimates, we include assessment time on a semi-annual schedule for all K-3 students. Within the prototype elementary school, 192 students would be assessed for 30 minutes each biannually. Primarily driven by teacher time, the costs associated with assessment are \$6,034. As with intervention-related costs, the block grant-nature of funding would allow districts to target their assessment strategies appropriate to their educational program initiatives.

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<sup>10</sup> See Appendix II for a detailed breakdown of the cost-based reading assessment and intervention program adjustment recommended to the education resource block grant model.



Unlike the funds allocated to districts for training, we recommend that intervention and assessment funds be generated on a per-ADM basis according to district enrollment in grades K-5 consistent with other parts of the education resource block grant model.<sup>11</sup> On a per-elementary prototype ADM-basis, the intervention and assessment components amount to \$94.<sup>12</sup>

We recommend providing the greater of the per-ADM funding or \$24,846 allocation to districts for intervention and assessment to ensure that every district is provided the opportunity with sufficient funds to implement a meaningful assessment and intervention strategy.

In total, we recommend a total minimum allocation of \$45,463 to all 48 districts in Wyoming. When estimated using unofficial 2001-02 enrollment figures, providing for this cost-based, literacy-intervention initiative (with minimum allocations) would cost \$4,597,689, an increase of approximately \$1.5 million over the base Enrolled Act 69 funding levels of 2001-02 and an increase of approximately \$700,000 over the interim committee's funding recommendations for the 2002-03 school year.

## **Conclusion**

Research continues to show the importance of early literacy in future student success. With this understanding, the Wyoming Legislature passed the Reading Assessment and Intervention Program, also known as Enrolled Act 69, to provide school districts with additional funds apart from the education resource block grant to develop early literacy assessment and intervention programs. For 2001-02, the state allocated slightly more than \$3 million to school districts through this program.

MAP was tasked to examine the methodology used to fund Enrolled Act 69 and to examine the possibilities of developing a cost-based adjustment to be integrated with the education resource block grant model.

We conducted a thorough examination of literacy assessment programs and products and literacy intervention programs used by Wyoming school districts as well as by school districts across the nation. Through program examination, interviews with Wyoming school district and Wyoming Department of Education staff, and review of the funding methodology used to allocate program funds to school districts, we make the following observations and recommendations to be considered by the 2004 Legislature:

- The elementary school base prototype provides opportunities for small class sizes and provides funding for professional development, assessment, and supplies and equipment that could be allocated towards developing an intervention program.
- The education resource block grant model provided approximately \$6 million in supplemental at-risk funding to Wyoming school districts – the cost-based methodology

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<sup>11</sup> In most cases of the model, funding is derived using the three-year rolling average of K-5 enrollment with a one-half ADM for Kindergarten.

<sup>12</sup> Based on elementary prototype of 264 students (1/2 K).

for the at-risk funding component was developed using cost-intensive, one-to-one interventions.

- The state allocated \$3,027,355 to school districts to fund the Reading Assessment and Intervention Program.
- We recommend that the funding be integrated into the education resource block grant model.
- We recommend that funding be considered an adjustment within the education resource block grant model until the next model recalibration when integrating program funding into the prototypes can be considered.
- We recommend a minimum \$20,617 grant be provided to each district for the purpose of literacy training.
- We recommend a grant be provided to each district equal to the greater of \$24,846 or the product of \$94 and district K-5 ADM (1/2 K and three-year rolling average) for the purpose of assessment and intervention.
- If the Legislature were to fully implement these recommendations, school year 2001-02 allocations would have been \$4,597,689 to be added to the education resource block grant model.

**Appendix I: Enrolled Act 69 Wyoming Department of Education Funding Estimates**

<b>Item</b>	<b>Cost per year</b>
Professional Development	\$400,000
45 district reading specialists	\$2,700,000
One WDE Literacy Specialist	\$90,000
Equipment	\$10,000/year
Materials	\$10,000/year
In-state travel	\$20,000/year
Out-of-state travel	\$20,000/year
Meetings/trainings	\$30,000/year
One WDE secretary	\$40,000/year (includes benefits)
WDE Overhead (phones, faxes, copiers, etc.)	\$10,000/year
<b>Total suggested appropriation</b>	<b>\$3,620,000/year</b>

Professional Development = 200 elementary school buildings X four staff members per building X \$5,000 per staff member

District Reading Specialist = \$60,000 per year (salary and benefits)

## Appendix II: Cost-Based Adjustment Recommendation

<b>Minimum Reading Grant Funding per District</b>			
<b>Literacy Training</b>			
<b>Training</b>			
Training Fee		\$	12,000.00
Materials & Supplies		\$	150.00
Travel			
Time (Five weeks -- 200 hours)		\$	5,891.81
Travel (Two trips * \$350)		\$	700.00
Hotel & Per-Diem (\$75 * five weeks)		\$	1,875.00
<b>Literacy Director/Coordinator Training Total</b>		<b>\$</b>	<b>20,616.81</b>
<b>Intervention</b>			
<b>Intervention Teacher (serve 10 percent of 1st &amp; 2nd grade students)</b>			
1/2 Time Intervention Teacher * 1.0 Teachers		\$	18,662.32
Base Salary & Benefits	\$ 37,324.64		
Materials & Supplies		\$	150.00
<b>Total Intervention Costs</b>		<b>\$</b>	<b>18,812.32</b>
<b>Assessment Time</b>			
Assessment Kit (for two teachers) * 2 Kits	\$189	\$	378.00
Biannual Assessment		\$	5,656.14
30 minutes per student -- 192 students (all prototype K-3)			
	\$ 2,828.07		
<b>Total Assessment Time Costs</b>		<b>\$</b>	<b>6,034.14</b>
			<b>\$ 24,846.46</b>
<b>Total Minimum Allocation to District</b>			<b>\$ 45,463.27</b>