RECALIBRATION OF THE WYOMING SCHOOL FUNDING MODEL

INITIAL DESK AUDIT

Submitted To
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Table of Contents

Introduction	1
Individual Component Analysis	5
1. ADM County By School and District	6
2. Prototypical School Size	7
3. Elementary and Secondary Class Sizes	8
4. Minimum Numbers of Teacher Positions in Small Schools/Districts	10
5. Specialist Teachers	11
6. Instructional Facilitators/Coaches	12
7. Strategies for Struggling Students	14
a. Tutors	14
b. ELL Staff	15
c. Extended Day Programs	16
d. Summer Schools	17
e. RTI and Special Education	19
8. Pupil Support	21
9. Librarians and Library Media Tech	22
10. Professional Development	23
11. Instructional Materials	23
12. Assessments (Formative, Benchmark)	24
13. Technology	25
14. Student Activities	25
15. Gifted and Talented	26
16. Alternative Learning Environment Schools	27
17. School Site Leadership (Principals and Assistant Principals)	28
18. Secretarial and Clerical Staff	28
19. Supervisory Aides	29
20. Substitute Teachers	29
21. Vocational Education	30
22. Central Office Staff	30
23. Operations and Maintenance	31
24. Utilities	32
25. Transportation	32
26. Regional Cost Adjustment	32
27. External Cost Adjustment	33
28. Food Services	34
29. Salaries and Benefits	34
Appendix A: State Adequacy Studies Completed by Lawrence O. Picus and Associates Since 2005	35

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INTRODUCTION

School finance in Wyoming has a long and rich history that includes a number of important court rulings and substantial efforts on the part of the State Legislature to ensure that funds are allocated to school districts on an adequate and equitable basis. In *Campbell I*,[1] the Wyoming Supreme Court ordered the State to identify the basket of educational goods and services every child should receive. The state was further ordered to estimate the cost of providing that basket for all children and to then provide school districts with adequate levels of funding to meet that need. In one of the following court rulings on the topic, known as *Campbell II*,[2] the Court also said that the model developed to estimate adequate levels of funding should be recalibrated at least once every five years. In *Campbell IV*[3], the Court held that the funding system initially developed in the 2000 recalibration and modified several times by the Legislature through 2004, but prior to the 2005 recalibration, met the requirements of the Wyoming Constitution. To date the current model has not been challenged in court.

The last recalibration of the Wyoming School Funding model took place in 2005 and was conducted by Lawrence O. Picus and Associates.[4] At that time, we used our Evidence-Based model to estimate the components of the basket of educational good and services needed to ensure most, if not all, of the school children in Wyoming would have access to an adequate level of resources to meet the state's learning proficiency standards. The Joint Education Committee as well as the Legislature enhanced many of our initial recommendations. We then developed a comprehensive funding model in order to implement all the final recommendations. That model has been used since the 2006-07 school year. The model is maintained by the Wyoming Department of Education and the Legislative Service Office to allocate revenues to each school district in the state, and has been modified over time to reflect estimated changes in the cost basis of some of its components.

Based on our initial review of the current model, our primary finding is that the structure and framework of the funding model is sound. It continues to be more than sufficient to provide adequate financial resources to enable Wyoming's schools and school districts to deliver the State's basket of educational goods and services. The model appears to exceed the Court's requirement that the funding system be cost-based.

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[1] *Campbell County School District v. State*, 907 P2d 1238 (Wyo. 1995), known as *Campbell I*
[2] *State v. Campbell County School District*, 19 P.3d 518 (Wyo. 2001), known as *Campbell II*.
[3] Need reference for Campbell IV.
[4] Odden, A.O., Picus, L.O. and others (2005). *An Evidence-Based Approach to Recalibrating the Wyoming Block Grant School Funding Formula*. State of Wyoming, Legislative Service Office. http://legisweb.state.wy.us/2009/interim/schoolfinance/WYRecalibration.pdf

The current Wyoming Funding Model was developed through a rigorous series of analyses and activities. These include:

1. Our Evidence-Based model's extensive review of research on the impact of all elements of the model, for which research findings exist on student achievement. The research cited is included in the reference section of the 2005 report and is transparent to anyone interested in understanding the research basis for the recommendations. That research review formed the basis for our initial cost recommendations for each element of the model in 2005.

2. The initial research recommendations were considered in detail by the Wyoming Legislative Select Committee on Recalibration, leading to the initial modifications that were part of the process we used to create a funding model that matched the needs and expectations of Wyoming.

3. The recommendations that emerged from this legislative process were subjected to review by several Wyoming Professional Judgment Panels in June 2005. The panels offered a number of suggested modifications to the proposals from the Legislature.

4. During subsequent meetings, those recommendations were debated by the Select Committee which produced further changes to the initial cost recommendations.

5. In August, 2005 we held an additional Professional Judgment Panel which addressed specific issues for small districts and small schools in Wyoming. This meeting produced a more tailored refinement of the model's small district and small school adjustments, which were forwarded to the Select Committee for consideration.

6. The Select Committee held open public hearings on the draft model in early Fall 2005. From these hearings additional modifications to the Wyoming Funding Model were proposed and accepted, and the Select Committee sent its report and proposed legislation to the full Legislature for consideration during the 2006 Legislative Session.

7. The Joint Education Committee held public hearings in January 2006 prior to the start of the Legislative session later that year. The JEC recommended a number of enhancements and changes to the model, including increases in the minimum number of teachers at secondary schools, as well as placing instructional facilitators, extended day and summer school programs in categorical programs that were funded outside of the block grant. In addition, the JEC recommended that the Regional Cost Adjustment use the higher of the two indices under consideration or a minimum of 100 (see page 31 for details).

8. The Select Committee's report was debated by the 2006 Legislature, a process which produced additional model refinements, most of which further enhanced the level of resources provided to Wyoming's schools and districts both through the model and in some instances (i.e. instructional facilitators, extended day and summer school) through categorical program funding outside of the model.

9. Since its implementation beginning with the 2006-07 school year, the model has undergone technical, and sometimes substantive, changes. These changes were designed to resolve issues that were not anticipated at the time the initial Evidence-Based model was adopted.

This document is the first step in the recalibration process which will take place in 2010 in preparation for the 2011 Legislative session. It describes our initial desk audit of the current model and our recommendations regarding how the model might best be recalibrated. The purpose of this report is to ascertain if the level of resources provided for each component of the model are adequate to provide the basket of educational goods and services, and if so, whether current methods for estimating resource levels remain cost-based. If components are no longer cost-based we outline potential approaches for changing the formula parameters for that resource.

We are confident that the theoretical and research base for the model is still sound and aligns with our current work on school finance adequacy in other states[5] and with our continued review of best practices for improving student achievement. For example, to make our analyses more transparent to both the academic and policy communities, we have included the research reviews of the evidence on what improves student learning, and how to include that in school funding formulas, in the most recent edition of our frequently cited and used school finance text – *School Finance: A Policy Perspective*.[6] As always, each edition of the book is reviewed by both researchers and practitioners before it is published.

In addition, the School Finance Redesign Project's final report, funded by the Bill and Melinda Gates Foundation, stated that while more evidence is needed on how to improve schools and thus refine school funding models, the Evidence-Based method is a good approximation of what is now known and represents a best-evidence approach for moving forward on this agenda at this time.[7] To add further academic credibility to the ideas in the model, the leading school finance journal in the United States, the American Education Finance Association's *Journal of Education Finance and Policy* – published an overview of the Evidence-Based approach to school finance adequacy in 2008.[8]

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[5] See Appendix A for a complete list of our other state studies conducted since completion of the 2005 Recalibration report.

[6] Odden, A.R. and Picus, L.O.. (2008). *School Finance: A Policy Perspective 4th Edition*. New York: McGraw Hill.

[7] National Working Group on Student Learning. (2008). Funding Student Learning: How to align Education Resources with Student Learning Goals . Seattle, WA: School Finance Redesign Project, Center on Reinventing Public Education. (October).

[8] Odden, A.R., Goetz, M.E., and Picus, L.O. (2008). Using Available Evidence to Estimate the Cost of Educational Adequacy. *Education Finance and Policy*, 3 (3), Summer 2008. 374-397.

Since our 2005 work in Wyoming, we have published two books on how districts and schools can dramatically improve student performance, drawing on additional research both by us and by others.[9] The findings in these books identify strategies and resources that are highly aligned with and further reinforce the framework of the Wyoming Funding Model.

Since 2005 we have conducted two studies in Wyoming assessing how schools and districts in the state use education resources and organize schools to improve student learning. As part of that work, in October 2008 we convened a group of leading Wyoming educators – superintendents, principals, instructional facilitators, lead teachers and teachers – to give advice to us on their views of the key features of schools that boost student achievement. The result of that meeting was what we termed the Wyoming Improving School, which although tailored to the Wyoming context, was tightly aligned with the elements in the Wyoming Funding Model.[10] All of our subsequent analyses and research provide additional support to the framework and structure of the Wyoming Funding Model. As a result we are able to conclude with confidence that there is no reason to change it at this time.

We have also reviewed the current version of the funding model (version 1f).[11] That review suggests that the underlying components and Excel programming continue to operate as intended and that changes to the overall structure and operation of the model are not needed at this time.

As described above, during our initial recalibration, and subsequent to that work, many of the parameters of the formula have been modified from our initial recommendations. In many instances, the Wyoming Funding Model now in use represents Legislative enhancements to our 2005 recommendations. In addition, the state funded an External Cost Adjustment (ECA) for most components of the model in 2007-08, 2008-09 and 2009-10. The index used for this adjustment (the Employment Cost Index – Education Services[12]) exceeded the CPI-U. These enhancements have led to a situation where the Model funding exceeds our estimate of the resources needed to provide an adequate, cost-based, education program in Wyoming schools.

Therefore it is our conclusion that the structure of the Wyoming Funding Model does not need a formal, overall change and that because of current "over" funding, the model could remain adequate and cost-based in the near future without additional external cost

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[9] Odden, A. and Archibald, S. (2009). *Doubling Student Performance… And Finding the Resources To Do It.* Thousand Oaks, CA: Corwin Press; and Odden, A. (2009). *Ten Strategies for Doubling Student Performance*. Thousand Oaks, CA: Corwin Press

[10] Odden, A., Picus, L.O., Archibald, S. and Smith, J. (2009) *Wyoming School Use of Resources 2: Making More Progress in Identifying How Schools Use Resources in Ways That Boost Student Performance on State Tests*. Prepared for the Wyoming Legislative Service Office. Available at, http://legisweb.state.wy.us/2009/interim/schoolfinance/SUR2.htm

[11] Available at http://legisweb.state.wy.us/2009/interim/schoolfinance/modelversions.htm

[12] ECI – Education Services – All civilian – total compensation – Unadjusted (Series CIU1016100000000I)

adjustments. Our initial "desk audit" of the model explains this conclusion in detail and provides support for our conclusion. In the discussion below, we note areas where the state could make modifications in formula parameters to ensure the model will remain cost-based.

This conclusion is, in our view, sound today. However, over time it is likely that without further consideration, the funding levels contained in the model may no longer provide a cost basis for the basket of educational goods and services. Therefore, we also recommend that as part of its work, the Select School Finance Recalibration Committee develop a set of benchmarks to estimate when the cost basis of the model no longer meets funding requirements of the model.

We would also point out that much of the analysis contained in this document would not be possible without the Legislature's investment in comprehensive education data systems both as part of the last recalibration and continuing through today. The LSO and WDE staff have been able to provide policy makers with sophisticated analyses about resource allocation and use patterns thanks to this support and to the efforts of staff in each of the school districts. The data available in Wyoming exceed the kinds of data available in other states. Moreover, the WDE and Legislature appear to be using these data to make empirically based decisions about education programs for the future. We strongly recommend the Legislature continue to fund these data collection efforts and in fact, consider expanding those efforts to enable tighter linkages between resources and student performance in the future.

Below we review the individual components of the model, discuss whether or not they continue to deliver the basket of educational goods and services, and consider the extent to which the funding provided through the model remains cost-based. Our review suggests that the model's components can be placed into one of three categories as follows:

1. Components that remain cost-based and for which no change is necessary at the present time. This includes some components that currently appear to be "overfunded."

2. Components for which the formula parameters should be modified as part of this overall recalibration process

3. Components where the Legislature may want to consider policy changes that reflect current research based educational practice.

Each component, along with our initial analysis of its status is described in detail below.

INDIVIDUAL COMPONENT ANALYSIS

The remainder of this report describes our desk audit of each component of the model. In each section we provide background information on the particular component, including

the rationale for its inclusion in the model, and discuss whether or not modifications are necessary to maintain the cost basis of the entire funding model. We also provide a discussion of policy issues the Legislature may want to consider in the future as it reviews the model.

1. ADM Count by School and District

Background

The Wyoming funding model enacted in 2006 and operational for the 2006-07 school year and beyond counts students as ADM (Average Daily Membership) at the school level rather than the district level as was past practice and as is done in all other states. Conceptually this provides a more accurate assessment of the resource needs at each school, and should lead to a more accurate cost-based estimate of the resources needed to meet the basket of educational services.

Model ADM is the higher of a three year rolling average ADM in a school or the previous year ADM, whichever is greater. The rationale for this approach was to provide a "soft landing" for districts experiencing enrollment declines (which included most schools in the state at the time of the 2005 recalibration) but not to penalize those schools/districts where enrollment was growing.

There have been some unintended consequences of this approach. The most serious was the existence of large numbers of "phantom" students in cases where a new school was built and attendance boundaries were adjusted for all schools, resulting in children moving from one school to another school in the same district. The Wyoming Department of Education (WDE) implemented a correction for this problem in 2008 through rule and regulation.

However, by using the "higher of" approach outlined in the 2005 recalibration report, the model generates more ADM than would be counted if the state relied on either the 3 year rolling average, or the previous year ADM. The table below shows the LSO estimates of the additional ADM generated and the estimated additional funding generated compared to using a three year rolling average (which is currently the option that would generate the fewest ADM), or the prior year actual ADM for the 2009-10 school year.

Estimated Funding Differences Based on ADM Count Method, School Year 2009-10

ADM Count Method	ADM	Difference	Funding	Difference
3 Year Avg.	84,707		1,194,906,807	
Prior Year Actual	85,958	1,251	1,205,950,845	11,044,038
Higher of (Model)	87,116	2,409	1,215,994,722	21,087,915

Source: LSO, 4-19-2010

Over a four year period, the model's approach to counting ADM resulted in additional funding of $45.4 million compared to using prior year ADM only, and additional funding of $75.2 million compared to the three year average approach.

2010 Recommendation

We see this as a policy issue for the legislature. It is our view that the current policy could be retained. The marginal cost of adding one student to a school is generally lower than the additional revenue generated, whereas the savings that can be found from the loss of one student is similarly lower than the revenue lost. A growing school will benefit more from funding actual prior year ADM, while a school with declining enrollment will have a cushion for planning if the three year average is used. In the long run accommodating both conditions is probably important given the variation in enrollment trends across the state in recent years.

2. Prototypical School Size

Background

Prototypical school sizes in Wyoming's funding model are used as the basis for estimating resource needs and pro-rating resource generation based on the actual enrollment in a school. The current prototypes used in the model are:

- Elementary Schools: 288 students
- Middle Schools: 315 students
- High Schools: 630 students

These prototypes were developed after the decision was made by the Legislature to continue previous law and use core class sizes of 16 at the elementary level and 21 at the secondary level. With average class sizes of 16, the 288 prototypical elementary schools is a 3 section school – with 3 sections at each grade level. The prototype choices for middle and high schools revolved around even computations of core teachers (at a ratio of 21:1, a school of 315 students generates 15 core teachers).

However, because of the many small schools in Wyoming, this prototypical school size also makes it straight forward to recognize smaller prototype schools. These are generally proportions of the prototypes themselves. For example, at the elementary level,

while 288 students represent a three section school, a 192 student elementary school would be a two section school and a 96 student elementary school would be a one section school.

2010 Recommendation

In other states we have recommended prototypes of 432 for elementary schools, 450 for middle schools and 600 for high schools. This generally derives from larger class size recommendations (see item 3 below), and from larger average school sizes generally found in other states as well. Our general recommendation in Wyoming is to reconsider this issue after the class size discussion is resolved (see the next item below).

However, there are a few areas where because the initial high school prototype was double the middle school prototype, some unusual proration issues occur. These include such things as the distribution of librarian staff, principals and assistant principals, and potentially others. Our recommendation is to identify these anomalies and correct them in the model, but to not change the prototypes unless major changes are made to the class sizes. This is an area where the formula parameters may require a small modification.

3. Elementary and Secondary Class Sizes

Background

The funding model resources core class size at 16 for grades K-5, and 21 for grades 6-12 (there are some exceptions for certain school organization schemes, but this is the general intent of the model). This approach devolved from the class sizes used in the Wyoming formula before the 2005 recalibration, even though a close reading of the history of the 16 and 21 figures suggests that they were intended to include both core and elective classes, which would translate approximately into core class sizes of 19 at the elementary and 25-28 at the secondary level, depending on conversion factors.

In our other work we have recommended core class sizes of 15 in grades K-3 and 25 in grades 4 and above. We defined core classes as the regular classroom teacher in elementary school and teachers of mathematics, science, reading/English/writing, history, and world language in secondary schools. With these ratios, class sizes average about 18 in elementary schools (grades K-5) and 25 in middle and high schools (grades 6-12).

Research on class size shows that small classes of 15 (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.[13] It is also commonly concluded that the impact of small class size is even larger for students from low-income and minority backgrounds.[14] Thus, current research supports a policy of

[13] (Achilles, 1999; Gerber, Finn, Achilles & Boyd-Zaharias, 2001; Grissmer, 1999; Mishel & Rothstein, 2002; Molnar, 1999; Nye, Hedges & Konstantopoulous, 2002)
[14] (Finn & Achilles, 1999; Krueger & Whitmore, 2001)

funding core class sizes of approximately 18 in grades K-5. This figure is derived from the average of K-3 class sizes of 15 and grade 4-5 class sizes of 25.

The primary evidence on the impact of small classes today is the Tennessee STAR study, which was a large scale, randomized experiment of class sizes of 15 for kindergarten through grade 3.[15] The results showed that students in the small classes achieved at a significantly higher level (effect size of about 0.25 standard deviations) than those in regular class sizes, and that the impacts were even larger (effect size of about 0.50 standard deviations)[16] for low income and minority students.[17] The same research showed that a regular class of 24-25 with a teacher and an instructional aide did not produce a discernible positive impact on student achievement, a finding that undercuts proposals and wide spread practices that place instructional aides in elementary classrooms.[18]

Evidence on the most effective class sizes in grades 4-12 is harder to find. Most of the research on class size reduction has been conducted at the elementary level. Thus, we look for evidence on the most appropriate secondary class size from typical and best practices to make a recommendation for class sizes for these grades.

- First, the national average class size in middle and high schools is about 25.

- Second, nearly all comprehensive school reform models are developed on the basis of a class size of 25, a conclusion on class size reached by the dozens of experts who created these whole-school design models.[19] Although many professional judgment panels in other states have recommended secondary class sizes of 20, none cited research or best practices to support such a proposal. When the recommendations for specialists (described below) are included in the overall teacher count, there are adequate resources for schools to have classes of 25 or fewer in all core subjects, even under the typical circumstance where a teacher is responsible for five classes a day and students enroll in six classes a day.

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[15] (Finn and Achilles, 1999; Word, et al., 1990)

[16] Effect size is a term used to measure the magnitude of the treatment. In this case, how well students in small classes performed on standardized tests compared to students in large classes. Effect sizes are measured in terms of standard deviations so that tests using different scales or measures can be compared with each other. What this means is that at the median an effect size of 1.0 standard deviation would raise the student from the 50th to the 83rd percentile; 0.50 effect size would raise the student from the 50th to the 66 percentile, and a 0.25 effect size would raise the student from the 50th to the 58th percentile.
An effect size of less than 0.20 is considered a small effect. An effect size between 0.2 and 0.50 is considered a medium effect and an effect size larger than 0.50 is considered a large effect.

[17] (Achilles, 1999; Finn, 2002; Grissmer, 1999; Krueger, 2002)

[18] (Gerber, Achilles, & Boyd-Zaharias, 2001)

[19] Whole school reform or design addresses the entire school—from the organization of the school to the structure of the school day to the development of leaders and staff—through the implementation of a new school design that research suggests will lead to improved student learning. See for example, (Odden, 1997; Odden & Picus, 2000; Stringfield, Ross & Smith, 1996)

2010 Recommendation

We suggest that parameters of this element be modified. We have recommended larger core class sizes in all other adequacy studies. The figures of 16 for grades K-5 and 21 for grades 6-12 were based on the historical approach used in Wyoming and not only meet but exceed our adequacy standard. We would propose average elementary core class sizes of 18 and secondary (middle and high school) core class sizes of 25. If these parameters had been in place for 2009-10, the model's total funding would have been $54 million lower ($26.66 million less for elementary and $27.34 million less for secondary schools).

This recommendation can also be supported by current practice in Wyoming because WDE data show substantially fewer teachers have been hired for Wyoming schools, particularly at the elementary level, than the model currently fully funds suggesting that the recommendations in our other studies are adequate and cost-based.

The model was designed to fund core and specialist teachers at the class size (plus minimums discussed below) of 16 for grades K-5 and 21 above that. For 2008-09, districts across Wyoming chose to hire 468.2 fewer elementary teachers, 9.7 fewer middle school teachers, and 9.7 more high school teachers than funded.

4. Minimum Numbers of Teacher Positions In Small Schools/Districts

Background

Wyoming has always been concerned with the impact of higher per student costs for small schools and funding formulas have traditionally provided additional funds to compensate for these costs. The current funding formula has two adjustments for small schools/districts.

For schools with 49 or fewer students, the model provides funding for 1 assistant principal position plus funding for 1 certificated teaching position for each 7 ADM. These funds are assumed to be sufficient to meet *all* staff needs at the school (certificated and classified). In the special case where all of the schools in a district have 49 or fewer ADM (currently only one district) the model provides 1.5 certificated positions for every 7 ADM along with the 1.0 FTE assistant principal.

The model provides for a minimum number of teachers in schools with enrollments between 50 and 96 at the elementary level and between 50 and 105 students at middle and high schools. These minimum teacher numbers exceed the minimum teacher numbers we initially recommended in the 2005 recalibration effort. The table below shows our 2005 recommendations for the minimum number of teachers by type of school compared to the final choices made by the Legislature.

Comparison Of Minimum Teacher Recommendations In Schools With 50 or More Students With Current Wyoming Funding Model

School Level	ADM Range for Minimum Allocation	Evidence-Based Recommendation for Number of Teachers	Legislative Policy Choice for Number of Teachers
Elementary	50-96	3.75	6
Middle	50-105	7	8
High School	50-105	9	10

In addition, because of the way the law was drafted, a secondary school serving both middle school students (grades 6-8) and high school students (grades 9-12) generates the minimum for both school levels. This means that a small 6-12 school with 100 students is funded a minimum of 18 teachers. In 2009-10 if the minimum number of teachers recommended in the 2005 report were used, the model would generate $4.6 million less in funding, and if the grade band minimum requirement were lifted (the statute that results in the minimum of 18 teachers in a 6-12 secondary school) the model would generate $8.7 million less.

2010 Recommendation

The legislature chose to fund a higher number of minimum teachers for small elementary and secondary schools than we recommended. It remains our view the that the minimums we recommended represent an adequate cost basis for staffing schools with more than 49 and fewer than either 96 (elementary) and 105 (secondary) ADM. The formula parameters could be modified to reflect this.

5. Specialist Teachers

Background

Specialist teachers offer instruction in art, music, physical education, career technical education, and other electives. At the elementary level, specialists provide this instruction at times that enable the core or regular classroom teachers time for planning. In secondary schools they are provided in numbers adequate to cover a six period day in middle schools with teachers teaching for just five periods, and at the high school level in numbers sufficient to offer instruction in 90 minute block schedules. This resource also provides all teachers with time during the day for collaborative planning and to work on the instructional program. The model provides specialist teachers at the rate of 20 percent of the number of core teachers for elementary schools, and 33 percent of number of core teachers for middle and high schools.

In our 2005 report we initially recommended specialist teachers at 20 percent of the number of core teachers at all school levels. Our review of the evidence since completing the 2005 recalibration suggests the following:

- At the elementary level providing each teacher one period a day for collaborative planning and professional development focused on the school's curriculum requires an additional 20 percent allocation of specialist teachers needed to provide those planning periods while maintaining the core class sizes. These teachers could teach art, music, PE, or other specialist content classes.

- The 20 percent additional staff is also adequate for middle schools with a six period day where teachers provide instruction for five periods.

- At the high school, additional specialists might be needed. If the goal is to have more high school students take a core set of rigorous academic courses and learn that material at a high level of thinking and problem solving, a block schedule that allows for longer class periods may be a better way to organize the instructional time of the school. And typical block scheduling for high schools requires an allocation of specialist teachers equal to 33 percent of the number of core teachers. This enables the school to create a block schedule with four 90-minute blocks each day. Teachers would provide instruction for three of those 90-minute blocks and have one block – or 90 minutes – for planning and preparation each day.[20] We have made a recommendation for 33% specialists at the high school level in all our adequacy studies since 2005.

2010 Recommendation

Wyoming's funding model exceeds our current recommendations at the middle school level. We would recommend modifying the parameters in the funding model to provide specialists at the middle school level in numbers equal to 20 percent of the number of core teachers. This is sufficient for both individual plan time as well as time for teacher collaborative work on curriculum and instructional issues. This would most likely result in a lower number of specialist teachers at the middle school level. If the number of specialist teachers at middle schools were reduced to 20 percent, it would have reduced the funding commitment to schools in 2009-10 by approximately $7.6 million.

6. Instructional Facilitators/Coaches

Background

Instructional facilitators or coaches provide the critical ongoing instructional coaching and mentoring that the professional development literature shows is necessary for teachers to improve their instructional practice.[21] They also help to coordinate the instructional program in each school and in coordination with district wide curriculum and instruction goals. This means that they spend the bulk of their time working with teachers, either in collaborative work teams analyzing formative assessment data and

[20] There are a variety of block schedule options, but each of them require a specialist allocation of 33 percent of the number of core teachers to provide adequate individual planning time and time for teachers to collaborate in the design of instruction.
[21] (Garet, Porter, Desimone, Birman, &Yoon, 2001; Joyce & Showers, 2002)

revising instructional strategies, or in classrooms, helping individual teachers by modeling lessons, giving them feedback, and helping improve the instructional program.

The 2005 recalibration report recommended funding instructional facilitators at a rate of one facilitator per 200 ADM. The Legislature chose to fund these positions outside of the model as a categorical program, but did not fully fund the number of positions necessary to meet this ratio although the actual funding level is approximately two-thirds of the initial recommendation. In the two resource allocation and use studies we have conducted in Wyoming since the current model was put in place, we found districts employed facilitators in about the numbers funded, but their use and effectiveness varied across schools and districts.[22] Moreover, while Wyoming appears to be making the best progress in the nation on recruiting and training a cadre of effective instructional facilitators, it has found this to be a complex and difficult task that is quite time consuming. The WDE believes the state has a solid and growing cadre of effective Instructional Facilitators at the elementary level, and is making progress, but at a slower rate, in developing a cadre of effective Instructional Facilitators for secondary schools. As the state's experience with instructional facilitators deepens, and there is more evidence of their effectiveness and positive impact in helping teachers improve student achievement, there could come a time when the state might want to increase funding for this program resource.

2010 Recommendation

It is our view that facilitators/coaches are a critical component of the school improvement process and that current research has confirmed that importance.[23] Our recommendation is that this component be left as is while recognizing that the state might move toward more fully funding these positions at some point in the future.

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[22] Picus, L.O., Odden, A., Aportela, A. Mangan, M.T., and Goetz, M. (2008). *Implementing School Finance Adequacy: School Level Resource Use in Wyoming Following Adequacy-Oriented Finance Reform.* North Hollywood, CA: Lawrence O. Picus and Associates. Prepared for the Wyoming Legislative Service Office. Available at, http://legisweb.state.wy.us/2008/interim/schoolfinance/Resources.pdf; and Odden, A., Picus, L.O., Archibald, S. and Smith, J. (2009) *Wyoming School Use of Resources 2: Making More Progress in Identifying How Schools Use Resources in Ways That Boost Student Performance on State Tests.* Prepared for the Wyoming Legislative Service Office. Available at, http://legisweb.state.wy.us/2008/interim/schoolfinance/Resources.pdf

[23] See for example Mangin and Stoelinga (2008).. _New Research: Impact of Focused Collaboration on Learning. Elmore, Richard. "Building A New Structure for School Leadership." In School Reform from the Inside Out: Policy, Practice, and Performance, ed. R. Elmore. Cambridge, Mass.: Harvard Education Press, 2004. Gallimore, Ronald, Bradley A. Ermeling, William M. Saunders, and Claude Goldenberg. "Moving the Learning of Teaching Closer to Practice: Teacher Education Implications of School-Based Inquiry Teams." The Elementary School Journal 109, 5 (2009): 537-553. Saunders, William M., Claude N. Goldenberg, and Ronald Gallimore. "Increasing Achievement by Focusing Grade-Level Teams on Improving Classroom Learning: A Prospective, Quasi-Experimental Study of Title 1 Schools." American Educational Research Journal 46 (2009): 1006-1033. Supovitz, Jonathan. "Developing Communities of Instructional Practice." Teachers College Record 104, no. 8 (2002): 1591-1622. Vescio, V., Ross, D., & Adams, A. "A Review of Research on the Impact of Professional Learning Communities on Teaching Practice and Student Learning." Teaching and Teacher Education 24 (2008): 80–91.

7. Strategies for Struggling Students

Because not all students learn at the same rate, the model includes a series of tiered strategies to help struggling students. The intent is to keep performance expectations high and vary instructional time enabling students to meet those performance levels. This assumes schools begin with effective classroom instruction linked to a rigorous curriculum program and delivered by high quality teachers. The set of tiered interventions, if needed for struggling students, begins with accommodations in the regular classroom provided by the regular teacher, followed by tutoring in very small groups – sometimes one-to-one tutoring – at each school level, followed by academic help in extended day programs as well as summer school, leading to special education programs for students who still need additional help.

Services should be available to all students who are struggling in the regular curriculum. The model relies on a proxy to estimate the number of students likely to need such services, specifically using the unduplicated count of students eligible for Free and Reduced Price Lunch and who are English Language Learners, plus in grades 6-12 adding the number of mobile students – those who change schools during the school year. While this serves as a proxy for need, it does not preclude any student from receiving assistance as described below if needed. At the present time, we are not aware of a better research based way to estimate the need for these services. Additionally, use of a proxy avoids creating an incentive for schools and districts to over-identify students as struggling in order to generate additional revenue.

Our recommendations for each of these strategies are summarized below.

a. Tutors

Background

The most powerful and effective strategy to help struggling students meet academic standards is individual one-to-one tutoring, or tutoring in very small groups (maximum of five students) provided by licensed teachers.[24] If provided appropriately as part of an effective reading program in grades K-2, this extra help strategy can reduce reading failure to less than 2 percent of students.[25]

The impact of tutoring programs depends on how they are structured. The alignment between what tutors do and the regular instructional program is important.[26] Who conducts the tutoring matters, as does the intensity of the tutoring.[27] Poorly organized

[24] (Shanahan, 1998; Shanahan & Barr, 1995; Wasik & Slavin, 1993)
[25] For example, see Anthony Rebora, Responding to RTI, An Interview with Richard Allington, *Education Week*, April 12, 2010.
[26] (Mantzicopoulos, Morrison, Stone, & Setrakian,1992; Wheldall et al., 1995)
[27] (Shanahan, 1998)

programs in which students lose instructional time moving between classrooms can limit tutoring effects.[28]

Researchers have found greater effects when the tutoring includes the following mechanisms:[29]

- Professional teachers as tutors
- Tutoring initially provided to students on a one-to-one basis
- Tutors trained in specific tutoring strategies
- Tutoring tightly aligned to the regular curriculum and to the specific learning challenges, with appropriate content specific scaffolding and modeling
- Sufficient time provided for the tutoring
- Highly structured programming, both substantively and organizationally.

An important issue is how many tutors to provide for schools with differing numbers of at-risk students. The standard of many comprehensive school designs is a ratio of one fully licensed teacher-tutor for every 100 students in poverty, with a minimum of one for every prototypical school.

2010 Recommendation

Funding levels in the current model reflect the recommendations we made in our 2005 report and align with current research on the use of tutors. Consequently, we do not recommend any modifications to the model for tutors at the present time.

However, our resource allocation and use studies as well as the WDE's Continuing Review report found that many districts do not employ the full number of teacher tutors funded through the model. Consequently, the Legislature might want to consider funding this staffing position at the same level but outside of the block grant and through a separate categorical program, similar to the way instructional coaches are funded.

b. ELL Staff

Background

Research, best practices and experience show that when students are from both a low-income background and English language learners, some additional assistance is needed. This assistance includes a combination of small classes, English as a second language classes, professional development for teachers to help them teach "sheltered English" classes, and "welcome" centers in districts with large numbers of ELL students who arrive at different times during the school year.

[28] (Cunningham & Allington, 1994)
[29] (Cohen, Kulik, & Kulik, 1982; Farkas, 1998; Mathes & Fuchs, 1994; Shanahan, 1998; Shanahan & Barr, 1995; Wasik & Slavin, 1993)

In studying specific strategies to provide ESL instruction during the regular school day where the ELL students take language courses in place of an elective course, we have found that additional staff are needed.

Based on feedback from professional judgment panels in Wyoming in 2005, we recommended that ELL services be funded by providing one additional certificated teacher position for each 100 ELL students. We believe this figure continues to provide adequate resources to meet the needs of English Language Learners and continue to recommend this level of funding in other states and school districts.

2010 Recommendation

We recommend this model component be retained at current levels.

c. Extended Day Programs

Background

In the 2005 recalibration study, we recommended extended-day resources to provide academic help for two hours of before or after school programming at the ratio of one FTE position for every 30 at-risk students, assuming about 50 percent of at-risk students would participate. The Legislature elected to fund extended day and summer school programs outside of the model through a categorical grant program with appropriations for both programs of $9 million in 2006-07 and 2007-08 and $10 million in 2008-09 and 2009-10. This program provides funds to districts that offer extended day programs on a reimbursement basis

In a review of research, Vandell, Pierce and Dadisman (2005) found that well designed and administered after-school programs yield numerous improvements in academic and behavioral outcomes.[30] Studies of the effects of specific extended day programs have found:

- Improved sixth grade SAT-9 math and reading scores for participants in the high-program attendance group versus those in the low-program-attendance group
- Significantly higher PSAT scores for program versus control groups of students
- Increased reading ability
- Program members were much more likely than control group members to have graduated from high school and to be in a post-secondary school. The rate of four-year college attendance among members was more than three times higher than the control group rate and their rate of two-year college attendance was more than twice as high.

[30] (see also, Baker & Witt, 1996; Dishion, McCord, & Poulin, 1999; Mahoney, Stattin, & Magnusson, 2001; Posner & Vandell, 1994; Schinke, Cole, & Poulin, 2000; Tierney, Grossman, & Resch, 1995; White, Reisner, Welsh, & Russell, 2001)

These studies documented positive causal effects on the academic performance of students in select after-school programs, but the evidence is mixed both because of research methods (few randomized trials) and poor program quality and implementation.

Researchers have identified several structural and institutional supports necessary to make after-school programs effective:[31]

- *Staff qualifications and support* (staff training in child or adolescent development, after-school programming, elementary or secondary education, and content areas offered in the program, staff expertise; staff stability/turnover; compensation; institutional supports)
- *Program/group size and configuration* (enrollment size, ages served, group size, age groupings and child staff ratio)
- *Financial resources and budget* (dedicated space and facilities that support skill development and mastery, equipment and materials to promote skill development and mastery; curricular resources in relevant content areas; location that is accessible to youth and families)
- *Program partnerships and connections* (with schools to connect administrators, teachers and programs; with larger networks of programs, with parents and community)
- *Program sustainability strategies* (institutional partners, networks, linkages; community linkages that support enhanced services; long term alliances to ensure long term funding).

2010 Recommendation

Our recommendations in 2005 require somewhat more resources than currently allocated to extended day programs. However, current extended day programs in Wyoming appear to be much more limited in design than envisioned in that document. Moreover, districts do not yet use the full level of funding for these programs. The WDE continues to study these programs, and we recommend review of the effectiveness of the programs and district demand for more funds than are currently available before consideration of whether or not the model components need to be modified. If student attendance in extended day programs were not to change, additional funding would not be needed.

d. Summer School

Background

In the 2005 recalibration study, we recommended summer school resources to provide academic help for programs that were six to eight weeks long with six hour school days, at least four of which were focused on core academic programs. We recommended funding at a rate of one FTE position for every 30 at-risk students, assuming about 50

[31] (e.g., Fashola, 1998; Vandell, Pierce & Dadisman, 2005)

percent of at-risk students would participate. The Legislature elected to fund extended day and summer school programs outside of the model through a categorical grant program with appropriations for both programs of $9 million in 2006-07 and 2007-08 and $10 million in 2008-09 and 2009-10. This program provides funds to districts that offer summer school programs on a reimbursement basis.

Research dating back to 1906 shows that students, on average, lose a little more than a month's worth of skill or knowledge over the summer break.[32] Summer breaks have a larger deleterious impact on poor children's reading and mathematics achievement, than it does on the performance of middle-class students. This loss can reach as much as one-third of the learning during a regular nine-month school year.[33] A longitudinal study, moreover, showed that these family income-based summer learning differences accumulate over the elementary school years, such that poor children's achievement scores – without summer school – fall further and further behind the scores of middle class students as they progress through school grade by grade.[34]

Evidence on the effectiveness of summer programs in attaining either of these goals, however, typically has been of poor quality. Although past research linking student achievement to summer programs shows some promise, several studies suffer from methodological shortcomings and the low quality of the summer school programs themselves.

Recommendations from a recent book on summer school and how to enhance its impacts include (Borman & Boulay, 2004):

- Early intervention during elementary school
- A full 6-8 week summer program
- A clear focus on mathematics and reading achievement, or failed courses for high school students
- Small-group or individualized instruction
- Parent involvement and participation
- Careful scrutiny for treatment fidelity, including monitoring to ensure good instruction in reading and mathematics is being delivered
- Monitoring student attendance.

Summer programs that include these elements hold promise for improving the achievement of at-risk students and closing the achievement gap.

[32] (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996)
[33] (Cooper et al., 1996)
[34] (Alexander & Entwisle, 1996)

2010 Recommendation

Our recommendations in 2005 require somewhat more resources than currently allocated to summer school programs. However, current summer school programs in Wyoming appear to be much more limited in design than envisioned in that document. Moreover, districts do not yet use the full level of funding for these programs. The WDE continues to study these programs, and we recommend review of the effectiveness of the programs and district demand for more funds than are currently available before consideration of whether or not recalibration is needed. If student attendance in summer school programs remains constant, additional funding is not needed.

e. RTI And Special Education

Background

Wyoming currently funds special education on a 100 percent reimbursement basis. In our current adequacy work, we recommend full state funding of the costs for high cost (children with the most severe disabilities) special need students, and generally assume two percent of those with disabilities are in this "high cost" category).

For other children requiring special education services, the Evidence-Based model provides resources at each prototypical school to provide special education services for students with mild and moderate disabilities via the census approach to funding these students' needs (Odden & Picus, 2008). The census approach, which funds a set number of additional teacher resources for every school, assumes the incidence of these categories of disabilities is approximately equal across districts and includes resources for providing needed services at an equal rate for all schools and districts. Once allocated to the district, however, districts could differentiate resource allocations for these students with disabilities across schools recognizing varying incidence of need and placement of programs within the district across its various schools.

The census approach has emerged across the country for several reasons:

- The continued rise in the number and percentage of students as "learning disabled" and continued questioning by some of the validity of these numbers
- Under-funding of the costs of students with severe disabilities
- Over-labeling of poor, minority, and ELL students into special education categories, which often leads to lower curriculum expectations, and inappropriate instructional services, as well as delayed classification and under-identification of students in other categories
- Reduction of paper work.

Wyoming, like many other states, has also adopted a "Response to Intervention (RTI)" approach to providing services for students with disabilities. Without addressing the various technical debates about what RTI specifically means, this strategy is generally

designed to have school systems provide "prevention" extra help services to students before labeling them as disabled and developing an accompanying Individual Education Plan (IEP). There are clear benefits to the student as well as cost savings if assignment to special education services can be avoided through preventative services. The Wyoming Funding model was initially designed to accommodate an RTI approach for providing such preventative services.

The model provides extensive professional development resources for teachers (see discussion below) which should give them the training needed to provide some "accommodation" for student needs during regular classroom instruction. This is the first stage of the RTI process. The second stage is to provide intensive and highly effective extra help service for a student struggling to learn to standards. This is the rationale for the tutoring resources in the funding model. If a student needs help beyond tutoring, the model then provides resources for extended day academic help, as well as summer school academic help. The extended day programming is designed to provide more instructional time for a struggling student "within the regular school year" but "outside the regular student day." The summer school programming is designed to provide more instructional time for a struggling student "outside the regular school year."

The notion of the RTI approach is that a student is labeled as having a disability only AFTER being provided within classroom accommodations, tutoring, and some combination of extended day and summer school academic help.

This approach is critical in the first two years of schooling, and the 2005 recalibration report argues that if effectively implemented, an extra help strategy like this can virtually eliminate reading problems, which are often the basis of students under performing in later grades. The RTI approach, if used in the early years, can also substantially reduce the incidence of students being labeled as having a disability. In a recent interview in Educ*ation Week*, Richard Allington, a former President of the International Reading Association and a national expert on RTI, argued that if Kindergarten and Grade 1 and 2 teachers are skilled in teaching reading (which unfortunately is not always the case) and are supported with expert tutoring in small groups (one-to-one groups to at maximum of one-to-five groups) for students with a reading problems, those problems can be reduced to an infinitesimal percentage and the incidence of students with disabilities (usually learning disabilities) can be halved.[35]

Since Wyoming's funding model provides the kind of extra help resources reading and RTI experts like Allington recommend, as well as 100 percent funding of special education services for children with disabilities, we would anticipate that in the near future the number of students not reading at level should be reduced. This increase in reading skills will hopefully also lead to a reduction in the percentage of students identified as having a formal disability.

[35] Anthony Rebora, *Responding to RTI, An Interview with Richard Allington*, Education Week, April 12, 2010.

2010 Recommendation

We recommend that Wyoming revisit its approach to funding services for students with disabilities. Funding local services at 100 percent of local expenditures does not provide incentives for efficient service provision and may create incentives to over identify children as needing special education services. Further, having each of Wyoming's school districts, many of which are very small, provide for the full range of special education services for children with disabilities is more expensive than having some of the services provided by regional entities. We also note that Wyoming does not deduct federal Title VIb funds from local reimbursement, as done in most other states.

When looking at the resources provided by the state's funding model, schools should be able to provide a robust RTI program to serve all students struggling to meet Wyoming's proficiency standards. The model also provides ample funding for professional development, enough in fact, to enable training in RTI processes for all teachers. Consequently, it seems likely that districts receiving Federal Title VIb funds would still have adequate special education funding if those Federal dollars were used to offset the state's costs for providing 100 percent reimbursement of special education expenditures. Currently, Wyoming's approach to funding special education appears to be the most expensive way to fund services for students with disabilities.

We recommend modification of the parameters of the model in for special education with an eye toward identifying service delivery efficiencies (both through RTI and the regional provision of special education services), along with a census approach to staff allocations for special education services to children with mild and moderate disabilities at the district level. This model would exclude resources for students with severe and profound disabilities for whom educational services would continue to be fully funded by the state.

8. Pupil Support

Background

This category provides licensed staff to implement a school's student support and family outreach strategy. It includes guidance counselors, nurses, family outreach staff, and psychologists (non-special education).

The model provides a minimum of 1 pupil support FTE for each prototypical elementary, middle and high school. In addition, the model provides funding for guidance counselors at the secondary level at a rate of 1 FTE for every 250 students. Additional pupil support staff are provided to schools on the basis of at-risk counts. These are currently supported at the rate of one FTE for every 100 at-risk students.

We also recommend that in future versions of the model, positions for guidance counselors at the secondary schools be broken out from computation of pupil support staff generated on the basis of at-risk student counts. We used this approach in our work

in Washington, and it helps clarify the resources allocated to each school. With this technical modification to the model, it will be possible to better track how schools and school districts use these two critical resources in the future.

2010 Recommendation

We would not recommend modification of the model's parameters for this function.

9. Librarians and Library Media Tech

Background

The funding model provides librarians at a rate of 1 FTE librarian for each prototype elementary school – prorated up to the actual size of an elementary school and down to an enrollment of 49 ADM (when the small school adjustment becomes operative). At the secondary level, funding for librarians is provided at the rate of 1 FTE for schools with enrollments between 105 and 630 ADM. Below 105 it is prorated down to 49, and above 630 it is prorated up.

Library media technicians are funded at the secondary level at a rate of 1 per 315 ADM, and prorated between 49 and the actual size of the school.

Evidence suggests that librarian staffing resources in Wyoming's funding model are higher than in any other state formula, and exceed standards for librarian staff in other states. Our resource allocation and use studies as well as the Continued Review developed by WDE show that Wyoming districts actually hired fewer librarian staff than is funded in the model. The WDE's Continuing Review of Educational Resources in schools shows that in 2008-09 there were 92.3 fewer librarians in elementary schools than funded through the model, 20.2 fewer middle school librarians, and 22.9 fewer high school librarians. Additionally, the WDE found 127.7 more media tech personnel than the model funds at elementary schools, 2.2 more at middle schools and 17.6 fewer at the high schools. This suggests districts and schools use library/media staff in very different ways than funded through the model.

2010 Recommendation

We recommend a review of the model parameters in this area, with consideration of the relative allocation of technicians compared to librarians, and consideration of eliminating the difference in how librarian staff are prorated between middle and high schools. These revisions should be more reflective of current best practices in Wyoming and elsewhere.

10. Professional Development

Background

This category includes the instructional facilitators/coaches described in item 6 above. In addition, the Wyoming funding model provides 5 additional days of time for teachers to participate in intensive summer workshops along with dollar per ADM resources for trainers and materials. In 2008-09 districts spent 56.7 percent of funds allocated for this use on professional development training and materials. This amounted to $4.3 million less than the model allocated for this purpose.

2010 Recommendation

We recommend that this program element remain as is. As indicated above, we recommend retaining the instructional facilitators/coaches as a separate categorical program. We also recommend that the state require districts to exert more "control" over the ten days provided in the teacher work year for curriculum-linked professional development, five of which resulted in additional funding for teacher salaries during the development and implementation of the current model. We also recommend that the state urge all districts to fully use their professional development resources to help all teachers acquire the instructional strategies and skills needed to improve instructional practice in ways that boost student learning more than has been the case over the past five years.

11. Instructional Materials

Background

The model provided $296.99 per ADM for instructional materials for elementary and middle schools and $363.65 per ADM for high schools. These figures were adjusted by the external cost adjustment and are $333.43 for elementary and middle schools and $408.26 for high schools in 2009-10. The initial figure was based on current practice in Wyoming at the time of recalibration.

2010 Recommendation

Since the last recalibration, we have engaged in a more detailed analysis of these costs, developing a figure for instructional materials based on a six year textbook adoption cycle and the actual costs of textbooks and other instructional materials. Our current estimates for the costs of instructional materials are lower than the $250 we used initially in Wyoming, and substantially lower than current funding levels. We recommend modifying the parameters of this element assuming a six year textbook adoption cycle. If the Wyoming Funding Model includes the figures we most recently recommended – $145 per pupil for both elementary and middle schools and $180 per pupil for high schools – the model's cost would be reduced by $17.4 million.

12. Assessments (Formative, Benchmark)

Background

The current model provides an external cost adjusted figure of $37.70 per ADM for assessments. In 2008-09, districts only spent 32.2 percent of the funds provided for assessment through the model on assessment activities. Because the state funds the full costs of the PAWS test outside of the model, these resources are needed only for formative and benchmark assessments.

2010 Recommendation

We recommend retaining this element of the Wyoming funding formula as is. Under current practice, these resources need only fund formative and benchmark assessments. Formative assessments are diagnostic – often teacher developed – tools to understand what students know and need to know and are used to assess student understanding before teaching each curriculum unit. Benchmark assessments are periodic tests to check understanding to ensure students have mastered the material they have been taught.

The state may want to eliminate the external cost adjustment for this factor in the future as the costs for these assessments seems unlikely to rise, the state pays for the costs of the summative PAWS assessment outside of the model, and the current funding level appears to exceed most current estimates of assessment costs. Picus, et. al. (2010) estimate assessment costs in the range of $25 per pupil, while Topol, Olson and Roeber (2010)[36] provide per pupil assessment costs (including formative, benchmark and summative assessments) that range from $19.93 to $55.67 depending on the complexity and comprehensiveness of the assessment.

Additionally, it is currently unclear how the $350 million in Race to the Top funds set aside for assessment will be distributed and used, but it is possible that a variety of assessments may be available at no cost. We note also, that Wyoming has signed on to the national standards efforts, which will also impact assessment costs. Once all of this has become more settled, the state may want to reconsider the level of per pupil funding for assessment, but the overall strategy embedded in the model seems sound at the present time.

[36] Lawrence Picus, Frank Adamson, Will Montague, and Maggie Owens, (2010). *A New Conceptual Framework for Analyzing the Costs of Performance Assessment*. Barry Topol, John Olson, and Edward Roeber, *The Cost of New Higher Quality Assessments: A Comprehensive Analysis of the Potential Costs for Future State Assessments*. Both available at http://edpolicy.stanford.edu/pages/pubs/perf_assessment.html#papers.

13. Technology

Background

The 2005 recalibration report recommended funding at $250 per ADM. This figure is currently $291.90 based on the external cost adjustment.

2010 Recommendation

We recommend that the parameters used to estimate this figure be modified based on additional cost studies. In the 2005 recalibration study, we used findings about costs for computer technologies from other more conceptual, research as well as other Professional Judgment studies. However, in subsequent work, we have developed a detailed approach that identifies more precise cost figures, starting from a goal of specifying how many computers to provide to each group of students, the refresh cycle, equipment for internal networks as well as teachers, software, spyware.[37] Our work also includes funding for central data processing and technology functions as well. We have consistently found that a figure of $250 per pupil is adequate to fund these technology resources and are confident that this figure would be sufficient in Wyoming as well.

14. Student Activities

Background

The 2005 recalibration report recommended a base funding level of $250 per ADM. The Legislature elected to adopt a complex formula developed by Campbell County School District #1 that provided resources for activities based on the grade band and enrollment. School allocations for student activities were dependent on grade band (K-5 received less per pupil than 6-8 schools which received less per pupil than grades 9-12), and on grade size (the amount per pupil varied inversely with a school's enrollment).

2010 Recommendation

It is our sense that funding for activities in most other states is considerably below both the current Wyoming funding level and below our initial recommendations in 2005. We recommend modification of the parameters in the model with an effort to more accurately capture the costs of providing strong student activity programs. If the $250 per student were inflated by the ECA it would be $290.91 for the 2009-10 school year. Using this figure in place of the system approved by the Legislature would reduce payments for student activities through the model by $6.6 million.

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[37] See for example, *Picus, L.O., Odden, A., Goetz, M.E., Aportela, A., Archibald, S. (2008).* Funding Schools Adequately in North Dakota: Resources to Double Student Performance. *North Hollywood, CA: Lawrence O. Picus and Associates. Prepared for the North Dakota Commission on Education Excellence.*

15. Gifted and Talented

Background

The current model provides funding of $25 per ADM adjusted through the external cost adjustment to $29.19 per ADM to provide extra resources for gifted and talented students.

Research shows that developing the potential of gifted and talented students requires:

- Effort to discover the hidden talent of low income and/or culturally diverse students
- Curriculum materials designed specifically to meet the needs of talented learners
- Acceleration of the curriculum
- Special training in how teachers can work effectively with talented learners.

Our review of the research on best practices in serving gifted and talented students is, at the elementary and middle school level, to place gifted students in special classes comprised of all gifted students and accelerate their instruction because such students can learn much more in a given time period than other students. When the pull out and acceleration approach is not possible, an alternative is to have these students skip grades in order to be exposed to accelerated instruction. Research shows that neither of these practices produces social adjustment problems; indeed, many gifted students get bored and sometimes restless in classrooms that do not have accelerated instruction. Both of these strategies have little or no cost, except for scheduling and training of teachers.

The primary approach to serve gifted students in high schools is to enroll them in advanced courses – advanced placement (AP), International Baccalaureate (IB) – to participate in dual enrollment in postsecondary institutions, or to have them take courses through distance learning mechanisms.

The University of Connecticut developed a very powerful Internet-based platform, Renzulli Learning, which provides a wide range of programs and services for gifted and talented students. This system takes students through about a 25-30 minute detailed assessment of their interests and abilities, which produces an individual profile for the student. The student is then directed, via a search engine, to 14 different Internet data systems, including interactive web-sites and simulations that provide a wide range of opportunities to engage the student's interests. Renzulli stated that such an approach was undoubtedly the future for the very bright student.

The initial cost estimates for the Wyoming model are based on the Renzulli estimated cost of $25 per student.

2010 Recommendation

We do not think this program needs to be modified at this time.

16. Alternative Learning Environment Schools

Background

The recalibration report recommended funding alternative schools with funding to support one assistant principal and certificated teachers at a ratio of one FTE per seven students – intended to meet all staffing needs. The report assumed that alternative schools would be small high schools providing services to no more than 50 or 60 students with severe emotional and/or behavioral problems.

The Legislature funded this model, but there were three fairly large "alternative" schools in the state that were then funded through this approach, providing them with what appeared to be far more funds than would have been the case had they been treated as regular schools. Because of this assumption, there is currently a moratorium on the creation of new alternative schools.

However, an analysis of activity funding shows that if the large alternative schools are treated as regular high schools and the smaller ones treated like small schools in the model, the fiscal impact in 2009-10 would have been to allocate an additional $355,000 to school districts. This unexpected finding appears to be the result of student activity funding. Under the current model, alternative high schools receive $290.91 per ADM ($250 plus the ECA) for student activities. Further analysis to ascertain which schools/districts gain and which lose is still needed, but even at an enrollment of 268 ADM which is roughly the size of the largest alternative high school, student activity funds are substantially higher than $290.91 per ADM, amounting to $1,140.87 per ADM.

2010 Recommendation

We recommend that funding for alternative schools be carefully studied this interim. It may be that the best approach for funding these schools is to grandfather in the current large schools and then cap the size of future schools at an enrollment in the range of 50 to 60 students, and treat all alternative school as other small schools are treated in the funding model. However further study appears warranted despite the fact that few states have been successful to date in defining alternative schools. In the 2005 recalibration report, our intent was that the ALE adjustment would apply to schools with no more than 50 or 60 students.

17. School Site Leadership (Principals and Assistant Principals)

Background

The current model provides one elementary principal for a prototypical school of 288 ADM. This level of funding is provided from an enrollment of 96 to 288 and then prorated up for schools with more than 288 ADM. Between 49 and 96, the principal position is prorated as well. For 49 and fewer, the small school funding formula is in place.

For high schools and middle schools, one principal is provided for schools with 105 or more students. Assistant principals are phased in on a prorated basis starting at 316 ADM.

2010 Recommendation

We recommend modifying the formula parameters for principals at the elementary school so that above 288 ADM, elementary schools generate prorated assistant principals at the rate of one per 288 ADM. This does not need a recalibration, but instead simply an adjustment to the formula (and likely the concurrent statute).

Additionally, if the prototypical schools sizes are adjusted in response to changes in core class sizes, further changes in the allocation of principal resources could occur.

18. Secretarial and Clerical Staff

Background

The model provides 1 FTE secretary (12 month positions) in elementary schools between 96 and 288 ADM, and prorates this resource between 49 and 96 and above 288. It also provides 1 FTE clerical position (9 months) prorated above and below 288 ADM.

For middle schools, the model provides 1 FTE secretary (12 month positions) in between 105 and 315 ADM, and prorates this resource between 49 and 105 and above 315. It also provides 1 FTE clerical position (9 months) prorated above and below 315 ADM.

For high schools, the model provides 1 FTE secretary (12 month positions) in between 105 and 630 ADM, and prorates this resource between 49 and 105 and above 630. It also provides 2 FTE clerical position (9 months) prorated above and below 315 ADM.

Review of the WDE's Continuing Review document shows that across the state in 2008-09 elementary schools employed 66.8 fewer clerical staff (secretaries and clerks) than funded through the model, middle schools employed 2.2 more, and high schools 21.5 fewer clerical staff than funded through the model.

2010 Recommendation

The formulas in the model appear to generate more clerical staff than districts employ. The reason for this is not clear, but at the present time we do not recommend modification of the formulas as future demands on school personnel in the areas of assessment and data collection and analysis may place a heavier burden on school level clerical staff necessitating increased hiring in some schools.

19. Supervisory Aides

Background

Supervisory aides provide student supervision before and after school, during lunch and recess and help with bus drop-off and pick-up. These are non-instructional positions.

Elementary schools are funded for 2 FTE position for every 288 ADM, prorated above and below to 49 ADM.

Middle schools are funded for 2 FTE for every 315 ADM, prorated above and below to 49 ADM.

High schools are funded for 5 FTE for every 630 ADM prorated above and below to 49 ADM.

2010 Recommendation

We do not recommend modification of the formulas for this element of the model, although a small study of the impact of 100 percent transportation reimbursement on employment of such aides – whose responsibility includes bus drop-off and pick-up – might be considered.

20. Substitute Teachers

Background

Substitute teacher funding is based on 5 percent of core and specialist teachers and tutors at each school.

2010 Recommendation

We do not recommend modification of the formulas in this part of the model at this time.

21. Vocational Education

Background

Additional resources are provided for vocational education, by weighting ADM in approved vocational education programs by an additional 29 percent. This generates additional teaching positions at a school to provide for smaller vocational education classes. In addition, the model includes $9,027.27 per vocational education teacher for equipment, supplies and replacement

2010 Recommendation

We recommend that Wyoming modify the parameters of the model for vocational education, including a careful review of actual program services. Given small class sizes in Wyoming, there might be no strong rationale for even smaller classes for vocational education, particularly if the vocational education programs transform into more career/technical education which often requires no additional resources. Further, school districts actually spent considerably less on vocational education supplies and equipment than is provided in the extra funding formula, spending 59.8 percent of the resources allocated to vocational education supplies and equipment.

22. Central Office Staff

Background

The funding model provides resources for district administrators as follows:
a minimum of 3 FTEs, with 1 additional FTE prorated from 500 to 1,000 ADM (for a total of 4 at 1,000 ADM), and 1 additional FTE prorated for every 625 ADM beyond 1,000.

For Clerical support at the central office, the model provides a minimum of 3 FTEs, with 1 additional FTE prorated from 500 to 1,000 ADM, and 1 additional FTE prorated for every 417 ADM above 1,000.

The model also provides $312 per ADM (increased by the external cost adjustment to $350.28 per ADM) for central office non-personnel expenditures.

2010 Recommendation

We recommend that the parameters of the model for central office staff be modified. We have conducted additional research on central office staff size, and the findings show that this program element provides significantly more staff than current research suggests are needed, even after adjustments for small district size. Surprisingly, a review of the WDE's Continuing Review shows that across the state, districts employed 145.7 more professional, and 261 more secretarial/clerical positions than were funded through the model.

Further, the central office non-personnel dollar figure is much larger than districts actually spend, and could potentially be reduced to an actual expenditure amount per pupil for some year in the future.

23. Operations And Maintenance

Background

Operations and maintenance funding is provided through a set of formulas that generate custodial and maintenance personnel, and dollar resources for materials and supplies.

Custodians are provided on the basis of a formula that considers the number of teachers, classrooms, ADM and gross square footage in a school building, all of which is adjusted by size and type of school. In addition, district based custodians are provided on the basis of district square footage of buildings.

Maintenance workers are provided on the basis of a formula at the school level that includes a minimum allocation, gross square footage of the school, ADM and the district's operating expenditures. This figure is then adjusted on the basis of type of school, age of the school and the district ADM.

Groundskeepers are also funded through a formula that provides resources based on the acreage and ADM of each school in a district, adjusted by a factor for middle and high schools and assuming 93 hours of work per acre.

Finally, operation and maintenance supplies are funded at a rate of 57 cents per ADM adjusted to 64 cents per ADM by the external cost adjustment.

2010 Recommendation

Operations and maintenance is an area that has been reduced considerably in other states as school funding becomes tighter. Moreover, the WDE Continuing Review shows that Wyoming districts employed 237.3 fewer FTE staff in operations and maintenance jobs than were funded through the model. Further, there now is a growing body of evidence on the best practices for operations and maintenance from ASBO, state ASBO organizations and other sources. We recommend a more detailed review of the model parameters of how Wyoming's cost-model compares with other states and these emerging standards before making a determination about changing the formula parameters for this model element.

24. Utilities

Background

Utilities were funded based on prior year expenditures by the districts. In addition a 4 percent inflation factor was applied and further external cost adjustments have been made. Current utility funding is $33,152,577. Across the state, districts spent 103 percent of model funding on utilities in 2008-09.

2010 Recommendation

The current funding parameters in the model were put in place due to the tremendous uncertainty regarding future utility costs in Wyoming and elsewhere. As was predicted at the time of our 2005 report, utility costs increased somewhat and then declined substantially. There is little expectation that costs will increase in the next few years, providing time for the state to look more closely at developing a formula to more closely match the fluctuations in utility costs over time.

25. Transportation

Background

Transportation is currently funded through a 100 percent reimbursement.

2010 Recommendation

Because Wyoming reimburses 100 percent of local district expenditures for transportation, the funding system has no efficiency element built into it. The difficulty in developing a cost-based formula is the tremendous distances, weather and terrain challenges faced by school districts in transporting students to school. Therefore, in a state like Wyoming, it may be best to reimburse districts for their expenditures as is currently the case.

26. Regional Cost Adjustment

Background

The current model adjusts for differences in costs across the state based on a hedonic price adjustment we developed in 2005 and the Wyoming Cost of Living Index computed twice a year by the Wyoming Economic Analysis Division. A district's adjustment is the highest of these two indices or a value of 100.

2010 Recommendation

From an economic point of view, the current adjustment overcompensates for cost differences across the state. If a hedonic adjustment is used in the future, it should be recomputed. Regardless, reconsideration of the 100 minimum value is needed. The current approach is also the most expensive in terms of total model funding. The table below identifies the estimated savings to the state that would accrue with alternative regional cost adjustments if they had been used in 2009-10.

Estimated Impact of Alternative Cost Adjustment Approaches on Total State Funding Through the Wyoming School Funding Model: 2009-10

Alternative Regional Cost Adjustment	Difference in Total Model Funding ($)
Hedonic Index (no minimum)	-12.1 million
WCLI (no minimum)	-33.0 million
WCLI (minimum of 100)	-13.3 million
WCLI (computed without Teton County)	-7.5 million
Greater of Hedonic or WCLI (no minimum)	-4.1 million
Greater of Hedonic or WCLI (min. of 100 – current model)	0

27. External Cost Adjustment

Background

We recommended that the Legislature use a consistent index for all years between recalibrations. The state has used the Employment Cost Index – Education Services[38] for 2007-08 (3.8%), 2008-09 (4.3%), and 2009-10 (3.7%). For 2010-11 there will not be an external cost adjustment.

2010 Recommendation

Because the index is based on an education specific adjustment, it may reflect inefficient education management practices (such as automatic step and column salary increases as well as using labor over potential uses of technologies) which artificially inflate the true costs of providing educational services in Wyoming. We recommend consideration of an alternative adjustment for future years.

We also believe that many of the other recommendations included in this document will result in a lower cost basis for educational services. Thus the state will also want to

[38] ECI - Education Services- All Civilian - Total Compensation - Unadjusted (Series CIU1016100000000I)

establish a set of benchmarks to help recognize the point in time when the current funding level no longer meets the cost basis standard and need to be adjusted.

28. Food Services

Background

We recommended in 2005 that food services be a self sustaining fund with no net cost to the state. A study conducted in 2007 resulted in an annual allocation of approximately $5 million a year.[39]

2010 Recommendation

We recommend the state revisit food services in an effort to help districts find efficient approaches to providing meals for students that will result in a zero net cost of food services programs to schools, districts and the state.

29. Salaries and Benefits

We will withhold recommendations on this issue pending the completion of the labor market study currently being conducted.

[39] Perkins, J. (2007). Food Service Programs in Wyoming Public Schools: A Review and Analysis of Financial Deficits. Prepared for the Wyoming Department of Education by the Perkins Consulting Group. (November 13, 2007). Available at: http://legisweb.state.wy.us/2009/interim/schoolfinance/John%20Perkins%20report.pdf

Appendix A
State Adequacy Studies Completed by Lawrence O. Picus and Associates Since 2005

Fermanich, M., Mangan, M.T., Odden, A., Picus, L.O., Gross, B. and Rudo, Z. (2006). *Washington Learns: Successful District Study*. Final Report Prepared for Washington Learns. North Hollywood, CA: Lawrence O. Picus and Associates. http://www.washingtonlearns.wa.gov/materials/SuccessfulDistReport9-11-06Final_000.pdf

Odden, A.R. (2009). *Ten Strategies for Doubling Student Performance*. Thousand Oaks, CA: Corwin Press.

Odden, A.R. & Archibald, S.A. (2009). *Doubling Student Performance…and finding the resources to do it*. Thousand Oaks, CA: Corwin Press.

Odden, A. R., Goetz, M. E., & Picus, L. O. (2007, March 2). *Paying for school finance adequacy with the national average expenditure per pupil* (Working Paper 2). Seattle: University of Washington, Center on Reinventing Public Education, School Finance Redesign Project.

Odden, A. Picus, L.O., Archibald, S., Goetz, M., Mangan, M.T., and Aportela, A. (2007). *Moving from Good to Great in Wisconsin: Funding Schools Adequately and Doubling Student Performance*. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education. Available at http://www.wcer.wisc.edu/cpre/finance/WI%20March%201%202007%20Adequacy%20Report1.pdf

Odden, A.O., Picus, L.O., and Goetz, M. (2006). *Recalibrating the Arkansas School Funding Structure: Final Report submitted to the Adequacy Study Oversight Sub-Committee of the House and Senate Interim Committees on Education of the Arkansas General Assembly*. North Hollywood, CA: Lawrence O. Picus and Associates.

Odden, A., Picus, L.O., Goetz, M., Mangan, M.T., and Fermanich, M. (2006). *An Evidence-Based Approach to School Finance Adequacy in Washington*. Prepared for Washington Learns. North Hollywood, CA: Lawrence O. Picus and Associates. http://www.washingtonlearns.wa.gov/materials/EvidenceBasedReportFinal9-11-06_000.pdf

Picus, L.O. (2007). *Review of Report on the Cost of Education*. Prepared for the New Jersey Department of Education, January 2007

Picus, L.O., Odden, A., and Goetz, M. (2009). *An Evidence-Based Approach to Estimating the National and State-by-State Costs of an Integrated PreK-3rd*

Education Program. Prepared for the Foundation for Child Development, New York, NY.

Picus, L.O. and Odden, A.O. (2009). *Review and Analysis of Ohio's Evidence-Based Model*. Prepared for the KnowledgeWorks Foundation, April 2009.

Picus, L.O., Odden, A., Goetz, M.E., Aportela, A., Archibald, S. (2008). *Funding Schools Adequately in North Dakota: Resources to Double Student Performance.* North Hollywood, CA: Lawrence O. Picus and Associates. Prepared for the North Dakota Commission on Education Excellence.