2025 UPDATE OF THE WYOMING EVIDENCE-BASED MODEL

Working Draft
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Chapter 1
Introduction and Overview

Introduction

The purpose of this document is to provide the Wyoming Legislature with an update of the Evidence-Based Model that is the basis of the Wyoming Funding Model, as part of the 2025 recalibration effort. Recalibration of the Wyoming Funding Model is required not less than once every five years to comply with the statutory mandate contained in Wyoming Statute 21-13-309(t) and to meet the Wyoming Supreme Court's directive in *Campbell County School District v. State*, 907 P.2d 1238 (Wyo. 1995) (*Campbell I*).

The Wyoming Legislature's obligation is to define a "proper" education, commonly referred to as the educational basket of goods and services; estimate the cost of that basket; and fund the cost required to deliver the basket to all public-school students across Wyoming. In order to remain cost-based, the educational basket of goods and services must keep pace with the changing goals of the Wyoming education system, the changing demographics of students, and changes in the evidence of "what works in education," as included in the Evidence-Based Model.

To avoid confusion throughout this document, the Evidence-Based Model will be referred to as the **EB Model.** The model adopted by the Legislature and utilized to distribute funds to school districts will be referred to as the **Wyoming Funding Model**.

Picus Odden & Associates have served as consultants to the Wyoming Legislature for recalibrations conducted in 2005, 2010, 2015 and 2020. In each recalibration, the EB Model was used to identify cost-based formulas for each element of the Wyoming Funding Model.[1] This document updates the evidence supporting the recommendations of the EB Model. The report also compares the Wyoming Funding Model both to the 2020 Wyoming Evidence-Based Model and the 2025 Wyoming Evidence-Based Model that results from this update.

Chapter 2 of this document describes the EB Model and provides a graphic display of the components of the EB Model. Chapter 3 reviews all elements of the Wyoming Funding Model and compares each element to the 2020 Wyoming EB Model and to the 2025 Wyoming EB Model.

[1] The EB Model was found to be constitutionally compliant by the Wyoming Supreme Court in 2008. See *State v. Campbell County School District*, 2008 WY 2, 181 P.3d 43 (Wyo. 2008) (*Campbell IV*). Previous recalibration studies are available on both the Legislative Service Office school finance website (https://www.wyoleg.gov/stateFinances/SchoolFinance), and the Picus Odden website (www.picusodden.com).

Chapter 2
The School Improvement Model

The intent of the Wyoming Funding model is to identify the costs of providing the state's basket of educational goods and services and then to provide each school district with adequate funds to provide that basket such that each student is given an equal opportunity to meet Wyoming's student performance standards. Although a direct linkage between funding and student performance does not exist, the Wyoming Funding Model is designed to allocate adequate resources to provide all students with robust opportunities to meet college and career ready standards. Regardless of whether high school graduates go on to college or enter the workforce, today's global, knowledge-based economy requires a similar set of skills and expertise of each graduate.

No matter what course of studies a high school student completes – college prep or career tech – all of Wyoming's students are expected to achieve to college and career ready standards. This includes children from low-income homes, students of color, English language learners (ELL) and students with disabilities. The basket of educational goods and services and a cost-based funding model to support that basket must be sufficiently robust to allow students in all 48 school districts in Wyoming to attain these standards.

Before presenting the update of the elements in the Wyoming EB Model, this chapter provides a description of the school improvement model that undergirds the EB Model. At the school level, all of the individual elements in the EB Model need to be woven into an education improvement strategy designed to dramatically boost student academic performance. We offer both the theoretical underpinnings of the model and follow that with a visualization of the components of the EB Model to facilitate our analysis of the Wyoming Funding Model and EB Model components in Chapter 3.

The School Improvement Model Embedded in the Evidence-Based Approach to School Finance Adequacy

Odden and Picus developed the EB approach to link strategies and resources in high performance *schools* to state school funding formulas, a goal long sought by policy analysts, legislators and school leaders. Over the past two and a half decades, Odden and Picus have used the EB Model to conduct adequacy studies in over 20 states. The EB Model relies on a school improvement model that allocates resources for educational strategies that current educational research finds are linked to improvements in student learning. More detail on the EB Model can be found in the sixth edition of our school finance text,[2] and in the State Studies tab of the Resource section of our Website (www.picusodden.com).

[2] Odden, A., & Picus, L. O. (2020). *School finance: A policy perspective*, (6th ed.). McGraw Hill.

The model relies on two major types of research:

1. Reviews of research evidence on the student achievement effects of the individual educational strategies provided by the EB Model. In recent years this evidence has been strengthened by the growing number of randomized controlled trials (RCTs) that have been conducted on the various elements included in the EB Model.

2. Case reports of schools and districts that have dramatically improved student performance on state tests over a 4–6-year period, examples of which are available in "Cases of Improving Schools" in the Resource section of our website (www.picusodden.com) and include Wyoming cases.

The EB school improvement model includes multiple educational programs and strategies that, if implemented by districts and schools, can be expected to lead to large improvements in academic achievement for all students, and substantial reductions in student achievement gaps linked to demographic variables (see for example, Blankstein, 2010, 2011; Chenoweth, 2007, 2009; Duncan & Murnane, 2014; Hoyer, 2020; Odden, 2009, 2012; Olson, 2025; Petrilli et al., 2022). The 10 school improvement strategies that underpin the approach include:

1. Analyze student data to become deeply knowledgeable about performance issues and to understand the nature of the achievement gaps in the school. The test score analysis first includes analysis of state test results and then, over time, uses benchmark and short cycle/interim assessments (sometimes including formative assessments) to help tailor instruction to precise student needs and to identify and monitor interventions for struggling students.

2. Set higher goals, including aiming to educate 95% of the students in the school to proficiency or higher on state exams; seeing that a significant portion of the school's students reach advanced achievement levels; and making significant progress in closing the achievement gaps linked to demographics.

3. Review evidence on good instruction and effective curriculum. Successful schools often sunset their previous curriculum and replace it with a different, more rigorous and research-proven, effective curriculum. Over time, they often create their own specific view of the effective instructional strategies needed to deliver that curriculum and expect all teachers to use those school-based instructional strategies.

4. Invest heavily in teacher professional development (PD) that includes intensive summer institutes and longer teacher work years. Successful schools provide resources for trainers and, most importantly, fund instructional coaches in all schools. These schools also provide time during the regular school day and week for teacher collaborative work groups to use student data and standards-based curriculum to improve instruction.

5. Provide extra help for struggling students and, with a combination of local, state, and federal Title 1 funds, provide some combination of tutoring in 1:1, 1:3 or 1:5 tutor-student ratio formats. Increasingly high performing schools provide high dosage tutoring

that over time also includes extended school days, summer school and English language development for all ELL students.

6. Create smaller classes in early elementary years, often lowering class sizes in grades kindergarten through three to 15 students, citing research from randomized trials.

7. Restructure the school day to provide more effective ways to deliver instruction. This can include multi-age classrooms in elementary schools and block schedules, double periods of mathematics and reading in secondary schools, and intervention blocks of time in elementary schools. This also includes pupil-free time for teachers to work in collaborative teams to create standards-based curriculum units and the instructional strategies to implement them. Schools also protect instructional time for core subjects, especially reading and mathematics.

8. Provide strong leadership support by the superintendent, the principal and teacher leaders around data-based decision making and improving the instructional program.

9. Foster professional school cultures characterized by ongoing discussion of good instruction and by teachers taking responsibility for student performance.

10. Bring external professional knowledge into the school. For example, hiring experts to provide PD, adopting research-based new curricula, discussing research on good instruction, and working with regional education service agencies, as well as the state department of education.

Table 2.1 briefly summarizes the 10 school improvement strategies underpinning the EB approach.

Table 2.1 *School Improvement Strategies Embedded in the EB Model*

1. Analyze student data to become deeply knowledgeable about performance issues and to understand the nature of achievement gaps in the school.
2. Set higher goals for student performance.
3. Review evidence on good instruction and effective curriculum.
4. Invest heavily in teacher profession development including intensive summer institutes and longer teacher work years.
5. Provide extra help for struggling students.
6. Create smaller classes in early elementary years.
7. Restructure the school day to provide more effective ways to deliver instruction.
8. Provide strong leadership support from the superintendent, principal, and teachers around data-based decision making and improving the instructional program.
9. Foster professional school cultures with teachers taking responsibility for student performance.
10. Bring external professional knowledge to the school.

Combined, our analysis of current research and our case studies identify a set of resources that, we conclude, are adequate for schools and districts to produce large gains in overall student

achievement and make substantial progress toward the student achievement goals of most states, including those in Wyoming.

In sum, the schools that have boosted student performance that we and others have studied, deployed strategies strongly aligned with those embedded in the EB Model. These practices bolster our claim that if such funds are provided and used to implement these effective and research-based strategies, then significant student performance gains should follow.

Visualization of the EB Model

Figures 2.1 and 2.2 offer a graphic approach to understanding the structure of the Wyoming EB Model. Figure 2.1 displays the five major expenditure categories included in the EB Model. The four elements above the "state specific factors" represent the four components we use to describe all of the elements of the EB Model, while the "state specific factors" represent the Wyoming specific costs of each element of the model.

Figure 2.2 offers a more detailed graphic display of how all of the components of the EB Model fit together. In chapter 3 we provide a summary table of the core resources of the EB and Wyoming Funding Models and describe the differences between elements of the two models.

Figure 2.1
Five Major Elements of the EB Model

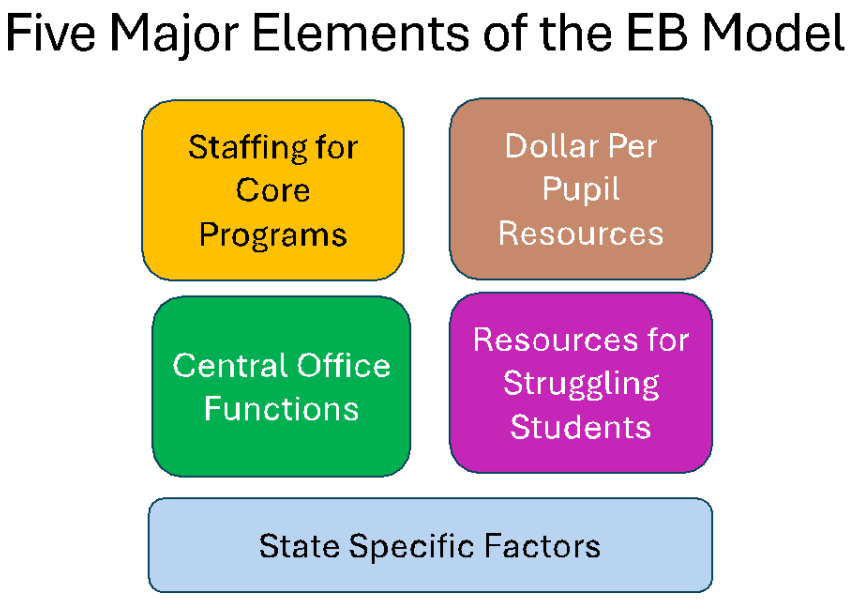
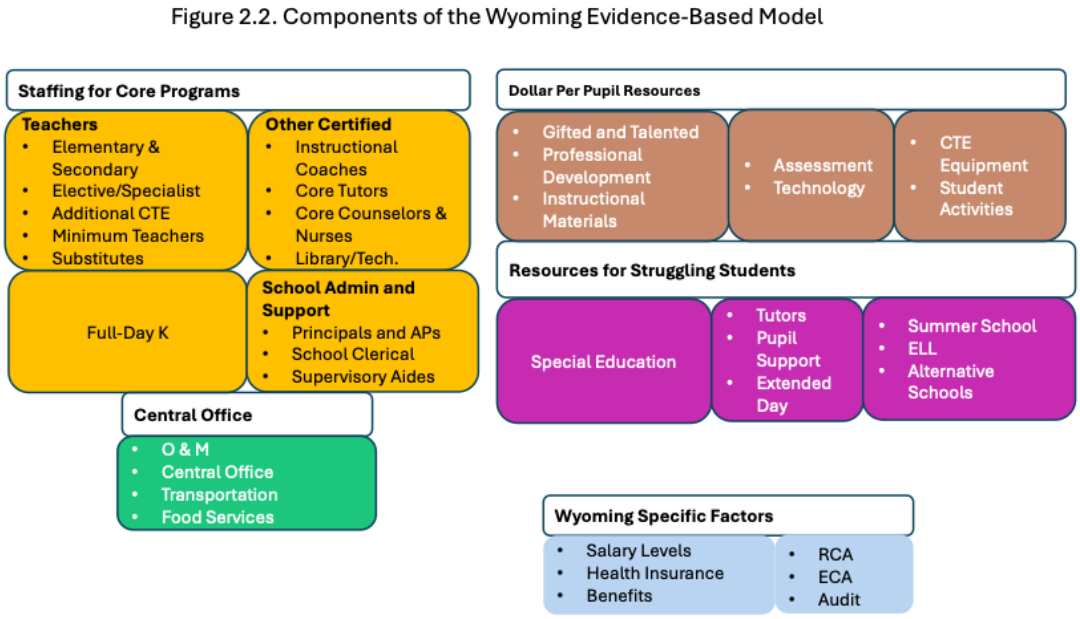


Figure 2.2
Components of the Wyoming Evidence Based Model



Guide to Acronyms

- CTE – Career and Technical Education
- ECA – External Cost Adjustment
- ELL – English Language Learners
- Full Day K – Full Day Kindergarten
- O & M – Operations and Maintenance
- RCA – Regional Cost Adjustment
- RCT – Randomized Controlled Trial

Chapter 3
An Update of the Evidence-Based Model Developed for Wyoming and Comparison to the 2025-26 Wyoming Funding Model

This chapter updates the EB Model we developed for Wyoming and compares it to both the previously developed 2020 EB Model and the 2025-26 Wyoming Funding Model.[3] The four parts of this chapter include the following:

1. Staffing for core programs, which include full-day kindergarten, core teachers, elective/specialist teachers, instructional facilitators/coaches, core tutors, core guidance counselors, core nurses, substitute teachers, supervisory aides, librarians, principals/assistant principals and school secretaries.

2. Dollar per student resources include gifted and talented, PD, computers and other technology, instructional materials and supplies, benchmark and short cycle assessments, and extra duty/student activities.

3. Central functions that include maintenance and operations, central office including school computer technicians, non-personnel resources, and transportation.

4. Resources for struggling students including tutors, pupil support, extended day, summer school, ELL programs, alternative schools and special education.

In each section, we show the parameters of the 2020 Wyoming EB Model, the 2025-26 Wyoming Funding Model, and the 2025 Wyoming EB Model.

Background Issues in the Development of the Evidence-Based Model

Three Tier Approach

The design of the EB Model reflects the Response to Intervention (RTI) model. RTI is a three-tier approach to meeting student needs.

- Tier 1 refers to core instruction for all students. The EB Model seeks to make core instruction as effective as possible with its modest class sizes, provisions for collaborative time, and robust PD resources. Effective core instruction is the foundation on which the effectiveness of all other educational programs and strategies depend.

- Tier 2 services are provided to students struggling to achieve to standards *before* being given an individualized education program (IEP) and labeled as a student with a

[3] Because the EB Model is based on the most recent education research, it has been modified over the years. It is important to note that the EB Model developed for each Wyoming recalibration has differed slightly from the current "base" EB Model we start with in every state. This reflects both the unique characteristics of Wyoming and the helpful and valuable feedback we have received from Wyoming educators, stakeholders, members of the public, Legislators and other stakeholders.

disability. The EB Model's current Tier 2 resources include one core tutor for every prototypical school and additional instructional resources, triggered by at-risk and ELL student counts, for tutoring, extended day, summer school, additional pupil support and ELL services. We further argue that the robust levels of Tier 2 resources allow schools to provide a range of extra help services, that often are funded only by special education programs, that get many modestly struggling students back "on track," and thus reduce the number and percentage of students needing special education services.

- Tier 3 includes all special education services.

The extra program elements included in the core EB Model provide a robust set of resources to provide extra instructional time for struggling students, which should result over time in a reduction in the overall number of students needing special education resources.

Student Counts

In addition, student counts used for the formula – average daily membership (ADM) – and at-risk students need to be defined. ADM used in the Wyoming Funding Model is defined as the greater of the district's prior year or the three-year average. At-risk students are defined as the unduplicated count of ELL students, free and reduced lunch eligible students in grades K-12, and mobile students in grades 6-12.

Prototypical Schools

A key component of the EB Model is the use of prototypical schools to generate initial resource allocation strategies followed by prorating resources to actual schools and/or districts. In the Wyoming Funding Model, prototypical school sizes are used as the basis for estimating resource needs and for pro-rating resource generation and thus costs based on the actual enrollment in a school.

In other states, we have recommended prototypical school sizes of 450 for elementary schools, 450 for middle schools and 600 for high schools, based on research linking school size to student performance (Andrews et al., 2002; Antoniou et al., 2024; Duncombe & Yinger, 2007; Lee & Loeb, 2000; Lee & Smith, 1997; Leithwood & Jantzi, 2009; Raywid, 1997). These align with the EB Model class size recommendations, which differ from the smaller class sizes currently used in the Wyoming Funding Model (see model elements 3 and 4 below) and from larger average school sizes generally found in other states.

In Wyoming the current school size prototypes used in the model are:

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

These school prototypes were developed in 2005 following a Legislative decision to establish core class sizes of 16 for grades K-5 level and 21 for grades 6-12. With average class sizes of 16,

the 288-student prototypical elementary school has 48 students at each grade level (K-5) resulting in what is typically called a three-section school – three classrooms of 16 students at each grade level. The prototypical middle school (315 students) has 105 students each in grades six, seven, and eight, which equates to five classes of 21 at each grade level. A prototypical high school has 630 students, twice the size of the prototypical middle school, which is an average of 157.5 students at each of the four grade levels 9-12.

Because Wyoming has many small schools, these prototypical school sizes made it straightforward to create additional, smaller, prototype schools. These were proportional to the prototypes described above. For example, at the elementary level, 288 students constitute a three-section school; a 192-student elementary school would be a two-section school with 2/3 the number of students in the prototypical elementary school, and a 96-student elementary school would be a one-section school with 1/3 the number of students in the prototypical elementary school. Similarly, prototypes were created for smaller secondary schools, again with one, two, and three sections (enrollments of 210 and 105 in middle schools and 420 and 210 in high schools). These multiple prototypes reflect the multiplicity of small schools in Wyoming.

The challenge in developing school prototypes is that the Wyoming core class size of 16 and 21 do not match the EB core class sizes of 15 for grades K-3 and 25 for grades 4 and above. Despite our school prototype approach in 2005 – which has been carried forward in the Wyoming Funding Model through the current 2025-26 school year – **our EB recommendation remains that core class sizes should be 15 (K-3) and 25 (4 and above)**. These recommendations do not yield a straightforward school profile for prototype elementary schools in Wyoming if we are to continue to recognize the smaller schools common in the state's school districts. It is our view that for middle and high schools, the current Wyoming school prototypes provide adequate levels of resources to be allocated based on school prototypes of 315 and 630 students respectively. However, because the EB core class size increases from 15 to 25 at the fourth grade, a more logical elementary school prototype makes sense. The small size of most Wyoming schools continues to complicate the determination of a prototypical elementary school size. **To resolve this, we have shifted the Wyoming elementary prototypical school size to 330, 220 and 110 students**. Using the smallest prototype of 110 students, this assumes one class for each of the four grade levels (K-3) with 15 students in each K-3 class and 25 in each grade 4-5 class. The logic of two- and three-unit schools leads to the 220 and 330 school prototypes.

We recognize that schools will not have students enrolled in the pattern identified above (i.e. a school with 15 students in each K-3 class and 25 in each 4-5 or a 4-6 class). However, using prototypical elementary school sizes of 330, 220 and 110 ADM, this approach accomplishes the two (sometimes disparate) goals of keeping the research based pupil teacher ratios to 15 (K-3) and 25 (4-5) and providing a realistic size for prototypical schools used to allocate and prorate other school resources that recognizes the generally small size of Wyoming schools.[4]

[4] One issue in using this approach is that the average class size in an elementary school of 17.3 (K-5) or 18.1 (K-6) increases by about one student for each school configuration. It is important to emphasize that the EB model does not call for or recommend class sizes larger than the 15 and 25 pupil teacher ratios used in the model, it is the choice of the prototypical elementary school size of 110, 220 and 330 that leads to the appearance of larger average class sizes. In a school with a typical distribution of approximately the same number students in each grade, the average class size across an elementary school will remain at approximately 17.3 (K-5) or 18.1 (K-6). The smaller

In considering prototypical schools, there is one other issue that is likely unique to Wyoming. Because of the small size of some districts, schools often include students in grades K-12, or some other combination of grades that is broader than traditionally found in school districts. One of the challenges throughout the several recalibrations has been defining what constitutes a school. In some instances a K-12 school has been treated as three separate "co-located" schools resulting in the allocation of multiple principals or assistant principals (if a small school) and applying minimum teacher allocations to each "school." In other instances, the school is treated as one school with resources allocated through the funding model at the highest grade band level for which students are enrolled.

To further clarify, for purposes of allocating school level resources in the EB Model, "co-located" schools are resourced as a single school as opposed to two or more schools with a school identification number and school name as reported to the Wyoming Department of Education (WDE) from the prior year. In some instances, a building contains two or more "schools" as designated within the WDE's school database. In this case, a school is designated as a "co-located" school, which is defined by WDE's Chapter 8 rules as "two (2) or more schools, each with its own unique identifier, that exist within the same school facility." Operations and Maintenance funding for custodians, maintenance workers, and supplies is allocated as a single school for co-located schools in the Wyoming Funding Model and the EB Model extends this rationale to all school level resources.

Effect Sizes

In reviewing the evidence supporting each EB Model recommendation, the report discusses the impact of studies in terms of "effect sizes." Effect size is the amount of a standard deviation (SD) in higher performance that the program produces for students who participate in the program versus students who do not. An effect size of 1.0 indicates that the average student's performance would move one SD or from the 50th to the 83rd percentile.

A major issue in education is how to interpret the effect size – is it low, medium or high? Decades ago, when this issue was raised, treatments tended to be small scale interventions in a controlled context – several students in a laboratory environment. At that time estimated effects were often substantial, sometimes greater than 1.0 SD. Benchmarks for understanding the significance of effect size were established in 1969 (Cohen, 1969). Cohen posited an effect size of 0.2 as Small, 0.5 as Medium, and 0.8 as Large.

Since approximately 2000, when education treatments have been conducted on a much larger scale and in natural settings – often using thousands of students across scores of schools and dozens of districts and sometimes statewide – effect sizes have been smaller (Kraft, 2020). Moreover, studies today compare a new program treatment to an existing program treatment, whereas in the past the new program treatment was compared to no treatment at all; the result predictably has been smaller effect sizes. Hundreds of RCTs in education have been conducted in recent years with effect sizes almost always below 1.0. Kraft argues that new benchmarks are

prototypical school sizes are simply used to allocate other educational resources within the context of generally smaller schools in Wyoming.

needed to assess the importance of the effect produced. Kraft proposes the following benchmarks for effect sizes from causal studies of PreK–12 education interventions evaluating effects on student achievement: less than 0.05 is Small, 0.05 to less than 0.20 is Medium, and 0.20 or greater is Large. These proposed benchmarks were based on the distribution of 1,942 effect sizes from 747 RCTs evaluating education interventions with standardized test outcomes. Readers of this document are encouraged to consider these benchmarks in assessing the significance or importance of the various research impacts reported on the elements of the EB Model.

Staffing for Core Programs

This section covers full-day kindergarten, core teachers, elective/specialist teachers, instructional facilitators/coaches, core tutors, core guidance counselors, core nurses (the latter three constituting changes and additions to the EB Model), substitute teachers, supervisory aides, librarians, principals/assistant principals and school secretaries.

1. Full Day Kindergarten

The information below shows that both the EB Model and the current Wyoming Funding Model call for full day kindergarten. The 2025 WY EB Model is the same as the 2020 WY EB Model.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Include full-day Kindergarten	Include full-day Kindergarten	Include full-day Kindergarten

> **Summary and Recommendation**: The EB Model has always included full-day kindergarten. Research shows that full-day kindergarten, particularly for students from low-income backgrounds, has significant, positive effects on student learning in the early elementary grades. This research dates from 2000 and includes supporting studies from the Early Childhood Longitudinal Study, a longitudinal database used to analyze the impacts of several early childhood programs. Further, multiple RCTs, the gold standard of research, have found students who attend a full-day kindergarten program do better on multiple performance and behavioral measures than students who attend just a half day program. Thus, the 2025 WY EB Model counts kindergarten students as a 1.0 ADM to fund this programmatic recommendation.

Evidence and Recommendation

Research shows that full-day kindergarten, particularly for students from low-income backgrounds, has significant, positive effects on student learning in the early elementary grades (Cooper et al., 2000, 2010; Fusaro, 1997; Gullo, 2000; Reynolds et al., 2023; Slavin et al., 1994). In a late 1990s meta-analysis of 23 studies comparing the achievement effect of full-day kindergarten to half-day kindergarten programs, Fusaro (1997) found an average effect size of +0.77. That same year RCT (Elicker & Mathur, 1997) found the effect of full day versus half-day kindergarten to be about +0.75 standard deviations. Cooper et al.'s (2010) comprehensive meta-analysis reached similar conclusions finding the average effect size of students in full-day versus half-day kindergarten to be +0.25.

These findings were supported by research using data from the Early Childhood Longitudinal Study which found that students who experience a full-day kindergarten program versus students who experience only a half-day, perform better in reading and mathematics (Walston & West, 2004) and that the impact continues into higher elementary school grades (Plucker et al., 2004). Studies also find that full-day kindergarten positively impacts students' social and emotional skills (Cryan et al., 1992), as well as easing the transition into upper grades (Elicker & Mathur, 1997).

Research in the past several years has reinforced these findings. Hahn et al. (2014) concluded that full-day kindergarten improved academic achievement by an average of 0.35 standard deviations over students receiving only a half day program, with the effect being 0.46 for verbal achievement and 0.24 for math. Thompson and Sonnenschein (2016) concluded that full-day kindergarten students (as compared to half-day students) had a higher chance of having early word reading skills by the end of kindergarten, which also predicted their higher reading scores in elementary schools. Early word attainment also helped to decrease the demographic related reading gaps. Gibbs (2016) studied a natural experiment in Indiana that randomly assigned students to full-day kindergarten. The results showed significant gains in literacy skills associated with students placed in full-day kindergarten, with the impacts being even greater for "Hispanic" students. In a cost benefit study, Ramon et al. (2018) calculated that, accounting for both the program costs and calculated economic returns, full-day kindergarten programs had a higher net benefit than half day programs, with net benefits being decreased childcare costs, reduced grade retention and remedial education, and increased maternal employment and income. In 2023, Illinois became the most recent state to mandate that all districts provide a full-day kindergarten program by the 2027-28.

As a result of these consistently positive research findings on the impacts of full-day versus half-day kindergarten, the EB Model supports a full-day kindergarten program for all students by counting all kindergarten students as 1.0 ADM.

2. Elementary Core Teachers/Class Size

Core teachers are defined as the grade-level classroom teachers in elementary schools. In middle and high schools core teachers are those who teach core subjects such as mathematics, science, language arts, social studies and world language.

The information below shows that both the EB Model and the Wyoming Funding Model provide for small elementary school classes, but the EB Model provides for smaller class sizes in grades K-3, and larger classes for grades 4-5/6. The 2025 WY EB Model is the same as the 2020 WY EB Model.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Grades K-3: 15:1 Grades 4-5: 25:1 Average class size of 17.3 (K-5) or 18.1 (K-6).	K-5: 16:1 Also applies to grade 6 when included in elementary school. For 5th grade in middle schools, the ratio is 21:1	Grades K-3: 15:1 Grades 4-5: 25:1 Note that this still yields an average class size of 17.3 (K-5) and 18.1 (K-6) when applied to schools with approximately the same number of students per grade.

Summary and Recommendation: The most important and costly decisions educators make in organizing schools is class size. And there is constant push from parents and teachers to lower class size. However, there is scant research on how class sizes impact student performance. The only RTC that assessed the impact of class size on student performance was the STAR study in Tennessee. That study found that elementary class size of 15 in grades K-3 positively impacted student performance in grades 1-3. Further studies found continued positive impacts on performance in upper elementary school, middle and high school, and beyond that. Thus, the EB Model has always recommended that class sizes in grades Kindergarten through grades 3 be 15. There have been no RCTs of class sizes at any other grades, so the EB Model has used 25 as the class size recommendations for the other elementary grades (4 and 5 for a K-5 elementary school and grades 4-6 for a K-6 elementary school). These class size recommendations produce an average class size of 17.3 in a Wyoming K-5 elementary school and 18.1 in a K-6 elementary school.

Evidence and Recommendation

In staffing schools and classrooms, the most expensive decision superintendents and principals make is on class sizes for core teachers. Core teachers are defined as the grade-level classroom teachers in elementary schools.

Class size has always been an issue of interest in both K-12 education practice and research. And the public continually advocates for small classes. In a 1979 meta-analysis of research on class size and its impact on student achievement, Glass and Smith (1979) concluded that class size did matter when class size fell below 20, but particularly 15 or less. This study gave momentum to public and policy interest in reducing class size. But Odden (1990) noted that their analysis had few if any experiments with class sizes around the 15 level and that most of the studies analyzed had class sizes of 25-35 or very small classes of 1-2. He concluded that the finding that class sizes of 15 and lower made a difference was a statistical artifact of combining the results of very different studies (large class sizes of 25 or more and very small class sizes of 1-2) but that the data analyzed actually included virtually no studies of class sizes of 15. Thus, evidence for implementing small classes was still lacking.

Tennessee sought to change this lack of evidence and sponsored a RTC, the gold standard of research evidence (Mosteller, 1995), of small classes in elementary schools, and it remains the primary evidence for the impacts of small elementary school class sizes. The Tennessee STAR

study was a large scale, RCT of class sizes of approximately 15 students compared to a control group of classes with approximately 24 students in kindergarten through grade 3 (Finn & Achilles, 1999; Word et al., 1990). The study found students in the small classes of 15 (not a class of 30 with an instructional aide or two teachers) achieved at a significantly higher level (effect size of about 0.25 standard deviations) than those in regular class sizes, and the impacts were even larger (effect size of about 0.50) for low income and minority students (Finn, 2002; Gerber et al., 2001; Grissmer, 1999; Krueger, 2002; Mosteller, 1995; Nye et al., 2002). The same research showed a regular class of 24-25 students with a teacher and an instructional aide *did not* produce a discernible positive impact on student achievement (Gerber et al., 2001), a finding that undercuts proposals and widespread practices that place instructional aides in elementary classrooms.

Subsequent research showed the positive impacts of the small classes in the Tennessee study persisted into middle and high school years, and the years beyond high school (Finn et al., 2001; Konstantopoulos & Chung, 2009; Krueger, 2002; Nye et al., 2001a, 2001b). Related longitudinal research on the Tennessee class size reduction program also found the lasting benefits of small classes included a reduction in the achievement gap in reading and mathematics in later grades (Krueger & Whitmore, 2001).

Although some argue the impact of the small class sizes in the Tennessee study was derived primarily from kindergarten and first grade, Konstantopoulos and Chung (2009) found that not to be the case concluding that the evidence showed that the longer students were in the small classes (i.e., in grades K, 1, 2 and 3) the greater the impact on grade 4-8 achievement. They concluded that the full treatment – small classes in all the first four grades – had the greatest short- and long- term impacts.

Studies of several statewide programs find similar effects of class size reductions in elementary schools, including the Wisconsin program that provided extra dollars for schools to lower class size in grades K-3 to 15 students (e.g., Cho et al., 2012; Molnar et al., 1999). Though the Wisconsin study was a quasi-experimental design, and not an RCT, it is viewed as a solid study showing positive impacts of a statewide reduction in elementary class size (Schanzenbach, 2010, 2015). Indeed, Figlio and Schanzenbach (ND), citing not only the Tennessee and Wisconsin programs, but also studies of elementary class size reduction in several countries around the world, argue that the evidence is unequivocal that small class sizes in elementary schools produce higher levels of student achievement. They also argue that the benefits of class size reduction, including increased wages in later years, outweigh the high costs of such programs.

However, some studies indicate, not only for class size reduction but also for other new programs, that statewide implementation is not as effective as the initial experiments show. The implication is that states should think seriously about how to structure the implementation of new funds from adequacy studies, particularly funds to reduce class sizes, rather than just providing the dollars to schools without any conditions. To be effective, class size reduction programs need to be implemented with careful attention to increased staffing to ensure that quality teachers are hired to provide instruction in the additional and smaller classrooms (Jepsen & Rivkin, 2009). This should not be a problem for Wyoming as it has supported small elementary class sizes for more than 25 years.

Some policy analysts argue that when school funding is tight the costs of class size reduction might not be worth it (e.g., Barnum, 2022; Whitehurst & Chingos, 2011), and others suggest funds for class size reduction might produce larger impacts if states/districts used them to recruit and retain more effective teachers (e.g., Hanushek, 2002). Both comments have merit. But an adequacy study addresses the issue of how much money is needed, not how to use limited funding, so the EB Model includes resources for small classes in the early elementary grades as such programs produce large increases in student learning. We urge states and districts to use all EB Model staff resources to recruit, train and retain effective staff in all areas.

In short, studies on class size use different analytic methods, and reach varying conclusions about the benefits, costs, and policy implications of the impact of class size on students (see also Hanushek, 2002; Krueger, 2002). We concur with those (e.g., Schanzenbach, 2020) who conclude that small elementary class sizes do make a difference and that the benefits outweigh costs. Thus, the EB Model's recommendation is to provide class sizes of 15 for grades K-3, with the related stipulation that the funds be used for classes of 1 teacher and 15 students and not for classes of 30 students with a paraprofessional aide or two teachers.

The Difference Between Class Size and Staffing Ratios

The issue of class size and staffing ratios is critical to understanding how the EB Model allocates resources to schools and has a substantial impact on the total cost of the EB Model. In many states and school districts "staffing ratios" are computed by dividing the number of pupils by the number of core *and* elective teachers. The result is that a school may report a staffing ratio of 15, but average class sizes will be higher because the number of pupils was divided by both core and elective teachers. In other states and school districts, there can be even more confusion. These states report "pupil teacher ratios" that are computed by dividing the number of pupils by the number of all certified staff, including core and elective teachers as well as other certificated staff such as instructional coaches and counselors. The result is that a school may report a "pupil teacher ratio" of 12, but average class sizes will be higher because the number of pupils was divided by all certified staff. These figures are often confusing as staffing ratios, pupil/teacher ratios and class size are frequently conflated when in fact, they have different meanings.

The EB Model is different in that it provides resources so that actual class sizes can be 15 or 25, and all other instructional staff are resourced above that level. To show the difference, imagine an elementary school with 300 students. If the school has 20 certified staff members, the pupil teacher (or more accurately pupil/staff) ratio is 15:1. But if five of the instructional staff members are not core teachers, but rather teach electives, are instructional coaches or have other responsibilities, there are only 15 core teachers and the average class size is actually 20, not the 15 that is reported.

For this reason, the EB Model makes a clear distinction between staffing ratio, pupil/teacher ratios and class size. The intent is to provide positions for actual class sizes of 15 in grades K-3 and 25 in higher grades. In the example above, assuming the class size goal is 15, there would be 20 core teachers, and the school would receive additional resources for elective teachers, instructional coaches, and other certificated staff. The logic is similar in middle and high schools.

Confusion on these issues has occurred because the Wyoming Funding Model in place during the 2005 recalibration, the MAP (Management Analysis and Planning) Model, used a staffing ratio. Specifically, the staffing ratio was 16 for elementary schools and 21 for middle and high schools. Our 2015 recalibration report included a long section that described how the staffing ratios of the MAP model and the class sizes and elective teacher allocations of the EB and Legislative Models produced different numbers of teachers and different class sizes.

Without going into the details, the MAP elementary staffing ratio of 16 actually implied a class size of 19.2 in elementary schools and 25.2 in secondary schools. These are very similar to the average elementary class sizes for the EB model of 17.3 in a K-5 school or 18.1 in a K-6 school (15 in grades K-3 and 25 in grades 4-6). The implied middle and high school class size of 25.2 is very close to the EB Model's secondary class size of 25. Put another way, if after the 2005 recalibration, the Legislature had adopted the EB Model class size ratios together with its allocation of elective teachers, which simply made explicit the core and elective teachers of the MAP staffing ratio, it would have been essentially the same as retaining the MAP Model's staffing ratio of 16 and 21. Instead, however, the Legislature turned the "staffing ratios" of 16 and 21 into class size numbers and with elective teachers provided at the ratios of 20% more for elementary schools and 33% more for secondary schools; this policy ended up providing substantially more teachers – and costing more – than the EB Model.

Further, as noted in both the 2015 and 2020 recalibrations, few large districts since 2005 have implemented class sizes of 16 elementary and 21 secondary schools but instead used the additional resources to raise teacher salaries.

3. Secondary Core Teachers/Class Size

In middle and high schools, core teachers are those who teach core subjects such as mathematics, science, language arts, social studies and world language. Advanced Placement (AP) classes in these subjects are considered core classes.

The information below shows that the WY EB Model provides for larger secondary school class sizes, and thus fewer secondary teachers, and thus is less costly than the Wyoming Funding Model. The 2025 WY EB Model recommendation is the same as the 2020 WY EB Model.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Grades 6-12: 25	Grades 6 and above: 21:1 Grades 5 in a middle school are also resourced at 21:1	Grades 6-12: 25

Summary and Recommendation: Determining class sizes in upper elementary, middle and high schools are important programmatic and fiscal decisions. Like elementary class size, the public and educators continually press for smaller secondary class sizes. Many professional judgement panels in the past have also proposed class sizes in the high teens or low 20s for secondary grades. However, there is, to our knowledge, no RCT research on the impact of small class sizes in grades 4-12. It is an area that is ripe for future

research. However, given the lack of research evidence for smaller secondary class sizes, the EB Model uses standards and practices taken from various professional groups. All high-performance school models created by the New American Schools postulated class sizes of 25 for middle and high schools. And many high performing Charter School Models have class sizes of 25. Further, NCES (2022a) estimates that the national average secondary grade class size is around 25. Thus, the EB Model provides for class sizes of 25 in grades 4-12.

Evidence and Recommendation

Since most of the research on the effects of class size has been conducted at the early elementary level, evidence on the most effective class sizes in grades 4–12 is harder to find than is evidence for the early elementary grades. We have not been able to find any RCTs for small class sizes in grades 4-12. Although many professional judgment panels in several states have recommended secondary class sizes of 20 or less, no individual in a panel we conducted cited research or best practices to support proposals for secondary class sizes that small.

Further, literature reviews rarely find strong, positive impacts of secondary school class size reduction (e.g., Washington State Institute for Public Policy, 2013). Citing a few studies, Whitehurst and Chingos (2011) argued there might be a modest linear relationship between improving student performance and secondary class size when it drops from between 25 and 30 students to 15. Our view of this evidence is that the gains identified were modest at best and insufficient to make an EB Model recommendation for small secondary class sizes. In a study of average class size across middle and elementary schools in North Carolina, Etim et al. (2020) found no impact in elementary schools but curiously found an inverse relationship for middle schools, hardly evidence for small middle school class sizes. In sum, most analysts argue that the evidence on small secondary class sizes is insufficient to recommend small secondary class sizes (e.g., Figlio & Schanzenbach, ND; Schanzenbach, 2020).

To develop the EB Model, we sought evidence on the most appropriate secondary class size from typical and best practices to identify the most appropriate class size for these grades. The national average class size in middle and high schools is slightly above 25 students in subject matter classes (NCES, 2022a). Nearly all comprehensive school reform models of the late 1990s New American Schools initiative were based on a class size of 25 students (Odden, 1997; Stringfield et al., 1996), a conclusion on class size reached by the dozens of experts who created these whole-school design models. Many charter school models have similar class sizes, including, for example, Achievement First, Aspire, Green Dot, IDEA, KIPP and Noble.

The EB Model's middle and high school class size of 25 students is larger than the Wyoming Funding Model's class size of 21 students. It is our understanding that the use of class sizes of 21 students in these grades evolved from an earlier adequacy study conducted by MAP that specified 21 as a "staffing ratio" for secondary schools. The staffing ratio of 21 students per teacher was intended to include all teaching staff and did not distinguish between core teachers and elective teachers. If one assumes 21 is a "staffing ratio" and includes core and elective teachers, and if one further assumes each teacher provides instruction for five of six instructional periods of the regular school day, then the staffing ratio of 21 translates to a core class size of

about 25.2, essentially equal to the EB Model ratio of 25. But, as described in the following section, the EB Model adds elective teachers at each school at a rate of 20% for middle schools and 33 1/3% for high schools. It should be noted that the Wyoming Funding Model adds elective teachers at the rate of 33% for both middle and high schools. As a result, both the EB Model and the Wyoming Funding Model provide more teacher resources than the MAP funding model that was in place before the 2005 recalibration.

4. Elective/Specialist Teachers

In addition to core classroom teachers, the EB Model provides elective or specialist teachers to support core teachers. Generally, non-core or elective teachers, also called specialist teachers, offer courses in subjects such as music, band, art, physical education, health, career-technical education, etc.

The following displays the allocation of elective or specialist teachers to elementary, middle and high schools through the EB and Wyoming Funding models.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Elementary Level		
20% of core elementary teachers	20% of core elementary teachers	20% of core elementary teachers
Middle School		
20% of core middle school teachers	33% of core middle school teachers	20% of core middle school teachers
High School		
33 1/3% of core high school teachers	33% of core high school teachers	33 1/3% of core high school teachers

Summary and Recommendation: A combination of core and elective teachers has two purposes. The first is to allow schools to offer a full, liberal arts curriculum program with adequate courses outside the core, all of which are needed to cover Wyoming's education basket. The second is to provide time during the school day for *all* – core and elective – teachers to collaborate on instructional strategies, participate in PD activities and otherwise plan for class instruction.

Adding elective subjects to the curriculum also allows schools to provide pupil-free time for all teachers during the regular school day, which allows all teachers to engage in planning, preparation and ongoing PD during the regular school day. With these staff, schools can design the instructional day so that all teachers can engage in 45-60 minutes of collaborative PD 4-5 times a week, assuming a 6.5-hour instructional day and a 7.5-hour teacher workday. Importantly, RCT research shows that such collaborative teacher work can have substantial, positive impacts on both teachers' instructional practice and student academic performance.

For elementary and middle schools, the EB Model provides elective/specialist teachers at the rate of 20% of core elementary and middle school teachers and for high schools at the rate of 33 1/3% of core high school teachers.

Evidence and Recommendation

A Liberal Arts Curriculum. The first reason for providing both core and elective teachers is to allow schools to offer adequate courses outside the core, all of which are needed to cover the broad range of subject matter topics addressed by Wyoming's curriculum content standards. Thus, in addition to core classroom teachers, the EB Model provides elective or specialist teachers to complement and support core teachers. Generally, non-core or elective teachers, also called specialist teachers, offer courses in subjects such as music, band, art, physical education, health, career-technical education, typing, business, etc. The April 2017 issue of *Phi Delta Kappan* discusses many issues related to the importance of art and music for public schools. In response to the initial focus on STEM (Science, Technology, Engineering and Mathematics) classes, a STEAM (Science, Technology, Engineering, Arts and Mathematics) movement began to add Art and Music to the STEM emphasis. Today, virtually all states want schools to provide both core and elective classes.

Furthermore, there is increasing support for multiple versions of "modern" Career and Technical Education (CTE). In part a backlash to the alleged emphasis on high schools' preparing students for college education that emerged after the 1983 *Nation at Risk* report, workplace experts and policymakers today are calling for schools to provide pathways in high schools designed to equip students with more practice skills, that can be enhanced in two-year community or technical colleges rather than four-year colleges or universities. Thus, CTE programs focused on business/ finance and marketing, industry recognized credentials in such areas as precision machining and web-design, and jobs in new fields such as Artificial Intelligence (AI), electronic vehicles (EV), autonomous cars, and clean energy are increasingly provided by districts across the country (see for example, Heubeck, 2025).

Grissmer et al. (2023) show how one comprehensive elementary school model, Core Knowledge, that provides a classical liberal arts curriculum program, has produced large gains in student performance. To provide that curriculum program, the Core Knowledge model includes both core and elective teachers. In a RCT of the effectiveness of that comprehensive school reform model, the results showed the Core Knowledge programs increased student achievement in grades three through six in reading, mathematics and science.

In short, though teachers for core subjects are important and necessary as foundational or building blocks for other topics, elective teachers are also needed in order for schools to provide solid instruction in both core subjects and a range of elective subjects.

Creating a collaborative school culture. The second purpose of providing elective teachers is to allow schools to design schedules that provide pupil-free time during the school day for *all teachers* – core and elective – to allow them to collaborate on instructional plans, participate in PD activities and otherwise plan for more effective classroom instruction.

Teachers need pupil-free time during the regular school day to work collaboratively and engage in job-embedded PD. Assuming the instructional day is divided into six one-hour periods, providing every teacher with one period a day for collaborative planning and focused PD requires an additional 20% allocation for elective teachers over core teachers. Using this elective staff allocation, every teacher – core and elective – would teach five of six periods during the day, and have one pupil-free period for planning, preparation, and collaborative work.

The 20% additional staff is adequate for elementary and middle schools, but the EB Model establishes a different argument for high schools. If the goal is to have more high school students take a core set of rigorous academic courses and learn the course material at a high level of thinking and problem solving, cognitive research findings suggest that longer class periods, such as those made available through the use of a block schedule, is an effective way to organize the instructional time of a high school. Typical block scheduling for high schools includes four 90-minute blocks a day where teachers provide instruction for three of those 90-minute blocks and have one block – or 90 minutes – for planning, preparation, and collaboration. This schedule requires elective teachers at a rate of one-third (33 1/3%) of the number of core teachers. This block schedule would operate with students taking four courses each semester attending the same classes each day, or with students taking eight courses each semester while attending different classes every other day. Such a schedule could also entail a few "skinny" blocks (45-minute periods) for some classes. Each of these specific ways of structuring a block schedule, however, would require an additional 33 1/3% of the number of core teachers to serve as elective teachers to provide the regular teacher with a "90-minute block" for planning, preparation and collaboration each day.

The EB Model staffing recommendation for high schools are sufficient for high schools to provide all students with a rigorous set of courses throughout grades 9-12. It allows for an appropriate number of credits required for high school graduation and provides sufficient course taking opportunities for students to be admitted into any post-secondary institution in the country, including qualifying for Hathaway scholarships, or to enroll in CTE pathways that lead to high technology, high wage careers that do not require a college degree.

Most school districts today require a 7.5-hour workday for teachers. Instruction would comprise five hours of this time, and lunch 30 minutes, leaving 120 minutes for student arrival and departure and teacher collaborative time. A 7.5-hour teacher day and the core and elective provisions of the EB Model provide ample resources for districts and schools to provide time for teacher collaborative teams to meet regularly (daily) during the normal, 7.5 hour, teacher school day.

When teachers work in collaborative teams, they review student data to design standards-based lesson plans and curriculum units, identify interventions for struggling students, and monitor all students' progress toward meeting performance standards (DuFour, 2015). Teacher-led collaborative teams have been identified as keys to improving student performance in several of our school case studies (see case studies at www.picusodden.com) and case studies provided by others (e.g., Chenoweth, 2007, 2009). In a RCT, Carlson et al. (2011) found that when collaborative teacher teams engaged in data-based decision making by analyzing student data to improve instruction the result was higher student achievement.

Other research confirms these case study and RCT findings. Labeling teacher collaboration "peer learning," economists Jackson and Bruegmann (2009) found that teacher collaborative activities were related to student learning gains. Ronfeldt et al. (2015) found that teachers working in collaborative groups boosted student learning over a two-year period in the Miami-Dade school district. Johnson et al. (2016) found that the six high-poverty schools in one urban district that had achieved the highest state rating, made teacher teams the central component of its schoolwide improvement strategies and that a key condition was ensuring that the school schedule provided regular, reliable meeting times for teams. Studying school improvement strategies across hundreds of low performing schools in Washington, Sun et al. (2019) found that teachers using student data to improve instruction and target interventions produced substantial achievement gains.

Such activities can have other positive spill-over impacts. Using a database similar to the Miami-Dade database, Sun et al. (2017) found that when a more effective teacher becomes part of a teaching team, the performance of other teachers improves, and the performance of the more effective teacher does not drop. This finding suggests that teacher effectiveness can be enhanced when the system strategically ensures that each teacher team has at least one highly effective teacher as a member. In addition, Ingersoll et al. (2025) found that when teachers worked in collaborative groups, teacher retention improved, suggesting that how teachers are organized in schools impacts whether teachers decide to stay at the school, district or in the teaching profession.

Given a combination of core and elective teachers, schools still need to design schedules so that collaborative teacher work can be conducted, and often schools report difficulty in creating such schedules. Steele and Boudett (2007) provide several practical examples of how data-based decision-making teacher groups can be organized and scheduled in schools. Levenson and James (2023) take these suggestions a step further and provide multiple specific ways elementary, middle, and high schools can schedule time during the regular school day to enable such collaborative planning, as well as to provide extra help periods for struggling students. Short and Hirsh (2022) embed these activities into a change process in how teacher teams can function to improve instructional practice focused on implementing new standards-based curriculum programs.

In sum, there is considerable research from scholars across the country documenting how teacher collaborative teams can be organized in schools in ways that allows them to work during the regular school to improve instructional strategies that boost student learning. To provide this time during the regular school week and day requires a combination of core and elective teachers, resources provided by the EB and Wyoming Funding Models.

Number of Elective Teachers. The EB Model provides an additional 20% of the number of core teachers as elective teachers for elementary and middle schools. At the high school level, the EB Model provides an additional one-third (33 1/3%) of the number of core teachers as elective teachers. The Wyoming Funding Model differs from this, providing the same 20% additional elective teachers at the elementary level, but an additional 33% (not 33.33%) of core middle and high school teachers.

5. Additional Career Technical Education (CTE) Teachers

Many states now conceptualize CTE under the broad umbrella of postsecondary readiness[5] rather than as a standalone entity, with an emphasis today on technical skills needed for employment in a wide array of high wage, high skill jobs that can be entered immediately after high school. Nearly all states recommend that career education begin before high school, even in elementary schools, by exposing younger students to various career options and helping students learn about their own interests, talents, and potential career paths. States approach CTE delivery in various ways: in district-run secondary schools, in CTE centers, through work-based learning, or through dual/concurrent enrollment at postsecondary institutions. Additionally, states provide instruction in a wide array of career content areas that span the entire National Career Cluster Framework.[6]

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
No additional CTE teachers.	Student-level weight of 29 percent for CTE students in grades 9-12, divided by the high school class size of 21.	Provide a student-level weight of 20 percent for CTE students in grades 9-12, divided by the high school class size of 25.

Summary and Recommendation: CTE equips students with the skills, knowledge, and experiences necessary to enter the labor market or pursue further education or training. Historically, CTE has been viewed as a pathway for non-college-bound students to gain practical, hands-on skills in fields such as woodworking, metalworking, welding, automotive mechanics, typing, and cosmetology. In recent years, however, a growing demand for skilled workers, the rising cost of traditional four-year college degrees, and the public's changing perception of CTE as a viable path to stable, well-paying careers has reshaped the conceptualization and provision of CTE courses in U.S. schools. Schools increasingly offer CTE courses that prepare students for careers in a range of high-skill, high-wage employment sectors—many of which can be entered directly after high school. As such, CTE is emerging as a key strategy for strengthening economic mobility, reducing equity gaps, and filling critical talent pipelines.

The American College Testing Company and policymakers agree that the skills needed for college are similar to those needed for high-paying jobs in many CTE sectors. Therefore, all students should complete a solid academic high school program to be ready for college or careers upon graduation. For those students who choose to enroll in CTE pathways, this solid academic foundation can exist alongside meaningful career-focused education.

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[5] Postsecondary readiness broadly refers to "how well students are prepared for education and employment beyond high school" (WestEd, 2010, p. 1). It encompasses academic preparation, employability skills, and the personal development necessary to navigate various postsecondary pathways.

[6] The most recent version of the National Career Cluster Framework, developed by Advance CTE in 2024, consists of 14 clusters and 72 sub-clusters, which serve as the primary organizational structure for CTE programs. These are supported by five cluster groupings, aligned by the purpose and impact of the careers they include, and three cross-cutting clusters that provide skills and career pathways which both stand alone and intersect with all other clusters. Additionally, twelve career-ready practices ensure that every program includes the essential skills needed for success in both career and life.

Recent research confirms the positive benefits of CTE on student outcomes. In fact, a recent systematic review of 28 RCTs and quasi-experimental studies found that "student participation in CTE had statistically significant positive impacts on students' high school academic achievement, their likelihood of completing high school, their employability skills, and their college readiness" (Lindsay et al., 2024, p. 8).

A key issue for CTE programs is their costs. The financial resources required to deliver CTE courses can vary widely depending on factors such as the need for specialized materials and equipment, as well as small class size requirements due to safety considerations and limited equipment. While some CTE courses in some settings may require resources that are similar to those required to provide non-CTE instruction (e.g., a marketing course in a traditional district high school), and some technical programs require computer technologies that are provided as part of the regular EB Model, other courses require smaller classes and thus additional teacher resources (e.g., a welding course). Because Wyoming's CTE students engage with both higher- and lower-resource course options,[7] we recommend the EB Model to include a student-level weight of 20 percent for CTE students in grades 9-12. The EB Model continues to include $14,336 per every FTE CTE teacher for the equipment needs of some higher cost CTE programs (see discussion in element 20).

Analysis and Evidence

Most states organize their CTE content offerings using the National Career Clusters Framework, which groups careers into 16 broad clusters[8] based on common knowledge and skills. Each cluster represents a major segment of the modern U.S. economy and includes various career pathways that require similar academic and technical competencies, many of which lead to high-wage, in-demand jobs. National data sheds light on the popularity of particular career clusters among CTE students. According to the U.S. Department of Education Office of Career, Technical, and Adult Education (OCTAE), the top four career clusters among secondary CTE concentrators for the 2022-23 school year were health science (13.18%); agriculture, food, and natural Resources (12.43%); business management and administration (10.87%); and arts, A/V technology and communications (9.27%).[9]

The Wyoming Department of Education has argued that if the state is serious about educating its youth in career pathways that will allow them to earn a living and support a family, as well as create a quality life, then the state must assure students have access to career exploration in middle and junior high and even elementary schools that leads to high quality CTE programs at the high school and postsecondary level. Indeed, one notable recent trend among states is the

[7] According to the U.S. Department of Education Office of Career, Technical, and Adult Education (OCTAE) Perkins Collaborative Resource Network, there were 8,085 secondary CTE concentrators (students who successfully completed at least two courses in a particular career pathway or program of study) in Wyoming in 2022-23. The top four career clusters among Wyoming secondary CTE concentrators were manufacturing (17.37 %), agriculture, food and natural resources (13.42 %), hospitality and tourism (12.49 %), and architecture and construction (11.09 %).
[8] As described in footnote 2, the most recent version of the National Career Cluster Framework, released in late 2024, includes 14 career clusters; however, previous versions of the Framework included 16 career clusters.
[9] OCTAE Perkins Collaborative Resource Network CTE concentrator national enrollment profile.

push to offer CTE earlier in students' academic careers. Nearly all states' CTE websites and related materials at least provide a high-level statement that career learning should begin before high school. Some state materials discuss starting career education in the middle grades, while others argue for starting career-focused learning in elementary schools. In these earlier grades, the focus for career learning is career awareness and exploration, whereas the focus for career learning at the high school level shifts to more hands-on experiential instruction and postsecondary readiness.

For CTE to deliver on its promise of postsecondary readiness, it must be high quality. High-quality CTE includes many aspects. A high quality CTE program begins with a CTE or professional industry certification (PIC) licensed teacher who is current in his or her content area and receives support to remain current in his or her content area. The program must have adequate space and access to equipment/technology that reflects what is currently being used in business and industry. The program must also offer exposure to innovative and emerging technologies while ensuring student safety. Quality programs allow students to participate in work-based learning opportunities, earn college credit through dual or concurrent enrollment while enrolled in high school, and to participate in co-curricular career and technical student organizations. More succinctly, high quality CTE programs offer an integrated sequence of at least three linked courses. Upon completion of a high quality CTE program students should be able to demonstrate skills by attaining an industry recognized credential of value.

Based on research linking CTE participation to improved student outcomes on metrics such as student learning, high school graduation rates, postsecondary employment, and wages, the EB Model has supported high quality CTE programs since 2005. Lindsay et al.'s (2024) metanalysis of 28 CTE studies found that students' participation in CTE courses yielded positive impacts on achievement, high school graduation, career skills, and college readiness. Using data from the 1997 National Longitudinal Survey of American Youth, Kreisman and Stange (2020) found that students who took CTE courses at the upper levels (i.e., learned in depth in one area) were more likely to graduate from high school and receive a 2% increase in subsequent wages for each additional year of vocational education or CTE courses. Conversely, Kreisman and Stange found that students taking only introductory CTE courses did not experience these benefits. These findings support the current CTE emphasis on students' taking a sequence of at least three CTE courses that add up to expertise and certification in a specified area.

Plasman et al. (2020) found that students who enrolled in CTE classes in the earlier years of high school tended to continue to enroll, thus taking more sequences of CTE courses and upping their chances of high school graduation. Similarly, Dougherty's (2016) study of career technical programs in Arkansas (see also Dougherty et al., 2019) found that students who took three or more coherent CTE classes were 21 percentage points more likely to graduate from high school in four years, and 25 percentage points more likely to graduate from high school if the student was from a low-income background. These students also were more likely to attend two- and four-year colleges, to succeed in those college settings, and to earn higher wages after high school. These show the potential power of the CTE approach in a state with many rural districts like Wyoming. Importantly, the studies found that such programs did not track low-income students into low-quality vocational or career-tech programs.

Dougherty (2018) came to similar conclusions after studying the CTE programs in Massachusetts. The study investigated the causal impact of participating in a specialized high-school-based CTE delivery system on high school persistence, completion, earning professional certifications, and standardized test scores, with a focus on individuals from low-income families. The results suggested that participation in a high-quality CTE program boosted the probability of on-time graduation from high school by seven to ten percentage points for higher-income students, and possibly even larger effects for their lower-income peers. Dougherty notes that these impacts on high school graduation complement previous research findings that participation in high quality CTE programs produces longer term increases in earned income. Dougherty and Smith (2022) further concluded that these programs are cost effective.

While research into the positive effects of CTE on student outcomes has received significant research attention, research into the costs associated with the provision of high quality CTE has received much less attention.[10] Our investigation into this topic identified just one study that estimated comprehensive costs of CTE programs. New York City's Pathways in Technology Early College High Schools (P-TECH schools) discovered that compared to similar non-P-TECH schools, per student costs for the P-TECH schools were higher by $7,564 ($86,531for P-TECH schools versus $78,967 for comparison schools) for the first cohort and $4,522 ($91,014 for P-TECH schools versus $86,492 for comparison schools) for the second cohort (Rosen et al., 2023). According to the authors, the program's additional per student costs were due to "…P-TECH 9-14 schools' smaller size, the dedicated support they received from the district, and the investments of their industry partners, and because P-TECH 9-14 schools also received secondary education funding for supporting students who elected to continue on their schools' postsecondary degree pathways after their senior years of high school" (Rosen et al., 2023, p. 51).

Additional insights into the costs of providing CTE come from studies that report CTE expenditures. A national-level study reported that in fiscal year 2022, federal funds amounted to $77 per student, and state funding averaged $1,152 per student (with a range of $31 to $7,705; Advance CTE, 2023, p. 3). Another study estimated expenditures and benefits of CTE programs in several Northeastern states and reported regression-adjusted increases in per pupil expenditures ranging from approximately $3,000 to $7,500 (Dougherty & Smith, 2022). Explorations of expenditures that account for local contributions suggest even higher outlays. For example, a recent study in Vermont found that regional CTE centers received $27,181 per student and district CTE programs received $30,629 per student in 2022, with more than half of these amounts coming from local sources (Augenblick, Palaich and Associates [APA] and National Center on Education and the Economy [NCEE], 2023).

While cost and expenditure studies are scant, related school finance adequacy research may be instructive in helping to cost out CTE. The 2025 issue of *The Adequacy and Fairness of State*

[10] While information on CTE costs is currently limited, evidence exists that the field can expect additional studies in the future. For example, the Institute for Education Sciences (IES) recently released a tool intended to assist researchers and policymakers determine CTE program costs. See (see Incremental Costs in Career and Technical Education). Additionally, the IES-funded CTE Research Network 2.0 is in the process of conducting a CTE cost study for the state of Delaware (see Career Development Opportunities in Delaware: Implementation, Impact, and Cost | Career and Technical Education Research Network).

School Finance Systems report by Baker et al. (2025) found that Maine, New Hampshire, New Jersey, New York, North Dakota, and Wyoming showed evidence of relatively high school funding adequacy. When examining the state CTE funding approach for these six high-adequacy states, we find that three of the states (Maine, New Hampshire, and North Dakota) use a cost-based approach wherein the state reimburses all or part of the costs of providing CTE instruction. The remaining three states employ a student-based approach (New Jersey, New York, and Wyoming). While New York uses a more complex student-based allocation, New Jersey and Wyoming use a similar direct CTE student weight (1.23 for New Jersey and 1.29 for Wyoming).

Research on CTE safety considerations can help to explain increased resources and, consequently, increased cost associated with many CTE courses. Safety measures, notably small class size requirements, increase the cost of some CTE programs by reducing student to teacher ratios. Studies consistently show that class size in CTE courses is a critical factor in ensuring student safety, particularly in hands-on lab or workshop settings. The most frequently cited safety concern among CTE and STEM educators is overcrowding, which significantly increases the likelihood of accidents (Love et al., 2023; McKim et al., 2024). Multiple studies recommend a maximum of 24 students per instructor in general CTE lab environments, as accident rates rise substantially beyond this threshold—up to a 48% increase in incidents when this limit is exceeded (Love et al., 2023; McKim et al., 2024). In more hazardous course areas such as construction, the recommended class size drops to 20 students due to increased risks related to equipment and space constraints (Love et al., 2023). State-level policies reflect these concerns. For example, Virginia's Administrative Code[11] allows for no more than 20 students per CTE class when hazardous equipment is involved. These recommendations are also echoed by professional organizations like the National Science Teaching Association (NSTA)[12] and the American Chemical Society (ACS),[13] which assert that exceeding 24 students in laboratory settings doubles the likelihood of injury.

Spotlight on Project Lead the Way

Project Lead the Way[14] (PLTW) provides a nationally prominent exemplar of high quality CTE education delivered in a cost-effective manner. PLTW emphasizes the use of hands-on experience to develop the science, technology, engineering, computer science and mathematics skills essential for achievement in the classroom and success in college or jobs not requiring a four-year college education. The elementary school Launch program is designed to ensure that all students are prepared for the more rigorous PLTW programs in middle school and covers nearly all the standards of elementary school science. The middle school Gateway program is designed to spark interest in various science and technology areas and provides experiences in a range of paths The high school program offers 11 engineering courses, four biomedical science courses, and four computer science courses. High-scoring students earn college credit recognized in more than 100 affiliated postsecondary institutions.

[11] See 8VAC20-120-150. Maximum class size.
[12] See NSTA class size recommendations.
[13] See ACS class size recommendations.
[14] Project Lead the Way.

In 2024, PLTW was offered in more than 12,600 elementary, middle and high schools in all 50 states, enrolled over 2.4 million students, and trained more than 116,000 teachers. Research in several states shows it can have major, positive effects on student outcomes. For example, Schenk et al. (2011) found that PLTW participants in Iowa had higher math and science scores on the Iowa Test of Basic Skills. In a recent multiple year study of PLTW in Missouri, Nomi et al. (2024) found that PLTW had a positive impact on students majoring in STEM programs in postsecondary programs. Camburn and Chang (2021) found that students who took PLTW courses, which were offered in over 13% of Missouri's schools, outperformed students who did not on all performance measures studied.

Our cost analyses of PLTW in Wyoming found that the program can be successfully implemented without incurring additional CTE-related costs. The major potential cost areas for the PLTW program are class size, PD, and computer technologies. Most programs recommend class sizes of 25, which is what the core EB Model recommends for high schools. The PD and most of the computer technologies are covered by the PD and computer allocations of the EB Model discussed in this report. Further, PLTW training for teachers now can be accessed in an on-line format so is available to all schools, even remote, isolated rural schools. The program also has a training program for lead teachers who can then train other teachers in the school or district. Some of the PLTW concentration areas, though, require one-time purchase of expensive equipment, which we estimate could be covered by the $14,366 per CTE teacher allocation.

Final Recommendation

The class size provided by the regular EB Model—generally 25:1 at the secondary level—is sufficient to meet the needs of an exemplar high-quality CTE program, such as *Project Lead the Way*. Therefore, the EB Model to date has not allocated additional teachers specifically for CTE programs. However, many stakeholders in Wyoming—and in other states—argue that schools must not only prepare students for the jobs of the future but also provide a substantial number of CTE programs aligned with the current economy – often specific to their state. Due to safety concerns and equipment limitations, these types of classes often require **smaller class sizes**, typically around 15 students. Programs in fields such as welding, construction, and automotive technology fall into this category.

Under the current EB Model ratio of one teacher for every 25 secondary students, each CTE student in these smaller classes would need to be weighted as 1.667 students to ensure that a class of 15 receives funding for one teacher: (15×1.667)/25=1. While we do not have precise data on the proportion of small-class CTE programs relative to all CTE offerings, the assumption that approximately one-third of CTE classes require smaller class sizes brings the overall CTE teacher weight to about **1.2**.

The EB Model also includes $14,336 for every CTE FTE teacher for CTE equipment and materials (see Element 20).

6. Minimum Teachers

In describing the EB and Wyoming Funding Models' staff allocations, most of the language

refers to prototypical schools. In most cases, it is appropriate to pro-rate teacher resources down as the number of students drop. So, a three-section elementary school is provided with 18 core teachers, a two section school would be provided with 12 core teachers, and a one section school would be provided with 6 core teachers, again one for each grade K-5. In other words, the number of core (and elective) teachers falls in the same portion as the overall student population. But an important issue is how to staff schools with enrollments smaller than that of a one-unit prototype school. As is discussed below, schools with 50 or fewer students are provided 1 assistant principal position, minimum teacher resources are prorated below 50 ADM from 6 teachers for elementary schools, 7 teachers for middle schools, and 9 teachers for high schools, and the remaining core staff continue to be prorated below 50 ADM. A minimum of 1 teacher position is provided. At-risk and ELL staff are also allocated based on the count of these students in the school.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
A minimum of 7 teachers provided for elementary schools, a minimum of 7 teachers for middle schools and 9 teachers for high schools with ADM greater than 49. Resourced at the highest-grade band level. For schools with 49 or fewer ADM, resources are provided on the basis of one assistant principal position and one teacher position for every seven students, with a minimum of 1.0 teacher position. Other non-staff elements are resourced plus staff resources generated by the at- risk and ELL student counts. Non-Teacher Staff Resources For schools with ADM less than the highest-grade band's one-section school, provide 1.0 assistant principal position. Other non-staff elements are resourced plus staff resources generated by the at-risk and ELL student	A minimum of 6 teachers provided for elementary schools, a minimum of 8 teachers for middle schools, and 10 teachers for high schools with ADM greater than 49. Resourced at each grade band level. For schools and grade-bands with 49 ADM or fewer ADM, minimum teacher resources are provided on a prorated basis at 1 teacher for every 7 students. Small district adjustment provides school districts with 243 or fewer ADM additional teachers. Each school with a student enrolled in each grade, receives a minimum of 1.2 elementary school teachers, 1.33 middle school teachers, and 1.33 high school teachers, or at least 16.51 teachers in a school with a student in each grade.	A minimum of 6 teachers provided for elementary schools, a minimum of 7 teachers for middle schools, and 9 teachers for high schools with ADM greater than 50. Minimum teacher positions prorated below 50 ADM with a minimum of 1 teacher. Resourced at the highest-grade band level.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
counts.		

Summary and Recommendation: The EB and Wyoming Funding Models' recommendations for teachers are applied to a series of prototypical schools, 330 ADM for elementary schools, 315 ADM for middle and 630 ADM high schools and is prorated down to smaller school prototypes with ADM of 110 for elementary schools and 105 for middle and high schools. But Wyoming has many schools smaller than the smallest prototypes. Based on research on smaller schools and previous feedback from Wyoming educators, the EB Model argues that the general formulas work (can be prorated down) for schools down to 50 ADM if they organize instruction via cross grade classroom configurations, or at the secondary level, teach some subjects every other year. Funding for schools with 50 or fewer ADM continues to provide one assistant principal position, prorates all positions other than teachers and assistant principals below 50 ADM to a school size of 1 ADM, and prorates the minimum number of teachers below 50 ADM down to a minimum of 1 teacher, using the minimum number of teachers generated by the highest grade band level of the small school – i.e. the EB recommendation of 6 elementary; 7 middle school; and 9 high school teachers.

Evidence and Recommendation

Background

In the 2005 recalibration, for schools with fewer than 96 students at the elementary level, and 105 students at the secondary level, it was recommended that staffing be simply prorated down from the staffing of a one-unit (96 or 105 student) school. This argument would then pro-rate the 7.2 core and elective teacher positions for the 96-student elementary school down to 3.68 core and elective teacher positions for an elementary school with 49 students. For secondary schools, a 105 middle or high school would generate 6.65 core and elective teachers down to 3.1 core and elective teachers with 49 students It was argued, particularly for elementary schools, that this provided sufficient elementary school staffing if schools organized classrooms with students of different ages. For elementary schools, it was even argued that multi-age classrooms could be a more effective way to organize classrooms (for example, see Tanner & Decotis, 1995; Gutierrez & Slavin, 1992; Pavan, 1992; Slavin, 1987). A similar argument was made for secondary schools, with the caveat that some subjects would be taught every other year rather than every year. In response, the Wyoming education community argued that it preferred to have one teacher per grade for elementary, middle and high schools with a student population of between 49 and 96/105.

In addition to the minimum number of teachers at each school, the Wyoming Funding Model has a "Small District Adjustment" that allocates additional teacher resources for districts with 243 or fewer ADM. Each school with a student enrolled in each grade receives a minimum of 1.2 elementary school teachers, 1.33 middle school teachers, and 1.33 high school teachers, or at least 16.51 teachers in a school with a student in each grade. That addition has not been adopted by the EB Model.

Current Formula

The Wyoming Funding Model uses the formula – one assistant principal position and one teacher position for every seven students – for very small schools (i.e., 49 or fewer students). This staffing allocation is to be used by each very small school for all teaching, counseling, secretaries and management functions, the specific combination of staff to be determined individually by each very small school. Since 2020 this approach has caused cliff effects if a school's ADM falls below 50 – sometimes as much as $350,000 in a year. To mitigate this cliff effect, our partner, APA developed an alternative approach that is included in the appendix at the end of this document. APA's proposal recommended that for schools with fewer than 50 ADM, the funding for that school be reduced by 1.5% per ADM reduction down to a school of one ADM, which would be funded at the level of one AP and one teacher. This is described in the appendix.

APA's initial approach does an excellent job of eliminating the cliff effects, however, programming it for the EB and Wyoming Funding Models is complicated. The APA approach required a reevaluation of the funding allocated to small schools and a much simpler approach was identified. We recommend continue providing one assistant principal position for all schools with fewer than 50 ADM, prorate all positions other than teachers and assistant principals below 50 ADM, and prorate the minimum number of teachers generated by a small school of down to a minimum of one teacher position. The minimum number of teachers used at 50 ADM would be generated by the highest grade band level of the small school – i.e. the EB recommendation of 6 elementary; 7 middle school; and 9 high school teachers. The approach recommended here is quite similar to the APA approach of reducing funding by 1.5% but accommodates the student demographics of each small school in a more straightforward manner.

7. Instructional Facilitators/Coaches

Instructional coaches, or instructional facilitators (IF), coordinate the instructional program. Most importantly, they provide the critical ongoing instructional coaching and mentoring the PD literature shows is necessary for teachers to improve their instructional practice (Cornett & Knight, 2008; Crow, 2011; Garet et al., 2001; Joyce & Calhoun, 1996; Joyce & Showers, 2002). This means that they spend the bulk of their time with teachers, modeling lessons, giving feedback to teachers, working with teacher collaborative teams, and generally helping to improve the instructional program.

Some instructional coaches may also function as school technology coordinators. In that role they provide the technological expertise to fix small problems with personal computer systems, install software, connect computer equipment so it can be used for both instructional and management purposes, and provide PD to embed computer technologies into a school's curriculum.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.5 instructional facilitator/coaches for prototypical 288 elementary school ADM and for every 315 middle and high school ADM, resourced at the highest grade-band level, with a minimum of 1.0 instructional facilitator position for each school district. Fund as a categorical grant.	Provide 0.45 instructional facilitator/coaches for prototypical elementary (288 ADM) and secondary (315 ADM) schools at the highest-grade band level.	Provide 1.5 instructional facilitator/coaches for prototypical 330 elementary school ADM and for every 315 middle and high school ADM, resourced at the highest grade-band level, with a minimum of 1.0 instructional facilitator position for each school district. Fund as a categorical grant.

Summary and Recommendation*:* Research in the late 1990s and early 2000s found strong effect sizes for instructional coaches as part of PD, particularly for reading. Studies in the 2000s have found that coaches provided as part of a data-based decision-making initiative improved both teachers' instructional practice and student achievement. Positive impacts of coaching are not limited to reading instruction and achievement. RCTs of coaching found that instructional coaching can produce significant student achievement gains across all four core subject areas – mathematics, science, history, and language arts. Recent research findings suggest that there is promise in constructing a comprehensive instructional coaching program that uses both individual coaches and online platforms to provide the coaching. Multiple studies have found significant levels of effectiveness for coaching whether it was provided in person or via video technology.

Drawing from this research, the generic EB Model provides one instructional facilitator/coach position for every 200 students. This recommendation has been tailored to Wyoming's prototypical schools and provides 1.5 IF for every prototypical elementary (330 ADM) school and 1.5 IF for every prototypical middle and high school (315 ADM), funded at the highest-grade band, and with a minimum of 1.0 IF for each district.

Evidence and Recommendation

A few states (i.e., Arkansas, New Jersey, Washington, Wyoming and to a modest degree North Dakota) explicitly provide resources for school-based instructional coaches. Most comprehensive school designs (see Odden, 1997; Stringfield et al., 1996), and Evidence Based Adequacy studies conducted in other states – Arizona, Arkansas, Illinois, Kentucky, Maine, Maryland, Michigan, North Dakota, Vermont, Washington, Wisconsin and Wyoming – call for school-based instructional facilitators or instructional coaches (sometimes called *mentors, site coaches, curriculum specialists,* or *lead teachers*). Further, several comprehensive school designs suggest that while one instructional facilitator might be sufficient for the first year of implementation of a schoolwide comprehensive improvement program, in subsequent years additional facilitators are needed. Technology school designs recommend at least a half-time as the site's technology expert (for example, see Stringfield et al., 1996). Drawing from this research, the generic EB Model provides one instructional facilitator/coach position for every 200 students. This

recommendation has been tailored to Wyoming's prototypical schools and provides 1.5 IF for every prototypical elementary school and 1.5 IF for every prototypical middle and high school, and with a minimum of one IF for each district.

Early research found strong effect sizes (1.25-2.71) for instructional coaches as part of PD (Joyce & Calhoun, 1996; Joyce & Showers, 2002). Several years later, Sailors and Price (2010) found that PD combined with coaching increased the deployment of comprehensive instructional practices by between 0.64 and 0.78 standard deviations. Newman and Cunningham (2009) found a similar impact on teachers' instructional impact as well as improved reading achievement, with an effect size about 0.2 standard deviations. A 2010 evaluation of a Florida program that provided reading coaches for middle schools found that teachers who had the benefit of a coach implemented more instructional methods that were linked to improved student performance in reading (Lockwood et al., 2010). A related study found that coaches provided as part of a data-based decision-making initiative also improved both teachers' instructional practice and student achievement (Marsh et al., 2010). A study published two years later reached the same conclusions about coaching as part of a program to improve reading (Coburn & Woulfin, 2012).

Positive impacts of coaching are not limited to reading instruction and achievement, however. Indeed, a RCT of coaching (Allen et al., 2011) found significant, positive impacts in the form of student achievement gains across all four core subject areas – mathematics, science, history, and language arts. A follow up study with a larger sample of schools and students found similar, large gains, with effect sizes of 0.22 (Allen et al., 2015).

A 2018 meta-analysis of 60 studies of the causal effects of instructional coaches, found the impact of instructional coaching on instruction was 0.49 SD and 0.18 on student achievement, with the largest number of studies on coaching programs for PreK-5 elementary reading programs (Kraft et al., 2018). The bulk of the 60 studies were conducted in the first 15 years of this century, many with experimental designs that allowed for causal implications. Cohen et al.'s (2021) review reached similar conclusions about the effectiveness of coaching.

Recent research findings suggest that there is promise in constructing a comprehensive instructional coaching program that uses both individual coaches and online platforms (Glover et al., 2019). For example, Kraft et al. (2018) found similar levels of effectiveness for coaching whether it was provided in person or via video technology. Allen et al. (2011, 2015) found similar results in two studies of a web-based coaching system, and Knight et al. (2018) found that an online coaching system had positive impacts on teachers' instructional practice as well as student test scores.

In short, instructional coaching has been shown to be a critical element of effective professional development, without which teachers' instructional practice does not change. Kraft et al. (2018) further describe various kinds of instructional coaching practices and discuss how coaching fits into the core elements of overall PD (discussed more below in the PD section). Knight (2017, 2022), one of the country's leading experts on instructional coaching, provides design principles as well as multiple strategies of effective instructional coaching. Booker and Russell (2022) also provide design principles for recruiting, training, and implementing instructional coaches.

The nearly universal recognition that instructional coaching is key to effective PD has led to the creation of various "*models"* of instructional coaching. For example, Pianta et al. (2022) in a RCT of a specific coaching model, My Teaching Partner, showed how coaching that focused on enhanced student-teacher engagement could lead to improved academic outcomes for preschool students. In another RCT, Reddy et al. (2021) examined a specific form of coaching, Classroom Strategies Control Model, and found significant and positive effects of such coaching on teacher behavioral management, quality instruction, student academic engagement and class wide increases in academic achievement. Indeed, instructional coaching has become such an important strategy of PD that analysts are seeking to develop a "science" of coaching (see for example, Reddy, 2023).

Educators across the country have relied in part on this research by hiring rising numbers of instructional coaches as part of rigorous school improvement strategies and PD programs. Domina et al. (2015) found that the number of instructional specialists per 1,000 students doubled from 1998 to 2013 (from about 0.7 to 1.4) and that the percent of districts with no such staff declined from 20% to 7%. In 2015-16, the National Center for Education Statistics found that 66% of schools, or nearly 60,000 schools, had subject matter specialists or instructional coaches, most in reading, math and science (National Center for Education Statistics, 2015-16). In a more recent survey, NCES found that 59% of America's schools have at least one instructional coach, 18% have two coaches, and 11% have more than two instructional coaches (Institute of Education Sciences, 2023-24). The percentages vary by region but more than 50% of all schools in every region have at least one instructional coach.

Table 3.1 Percentage of Instructional Coaches in America's Public Schools: 2023-24

	Zero Coaches	One Coach	Two Coaches	More than Two Coaches
All public schools	41%	30%	18%	11%
Northeast	43%	22%	20%	15%
Midwest	44%	33%	13%	10%
South	32%	32%	24%	11%
West	47%	31%	12%	10%

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, School Pulse Panel 2021–22, 2022–23, and 2023–24.

Though instructional coaching positions are provided as full-time equivalent positions by the EB and Wyoming Funding Models, schools could divide the responsibilities across several individual teachers. For example, the 3.0 positions allocated by the EB Model in a 630-student high school could be structured with six individuals who were half-time teachers and half-time instructional coaches. In this example, each teacher/coach would work 50% time as a coach – perhaps in one curriculum area such as reading, math, science, social studies and technology – and 50% time as a classroom teacher or tutor.

We recommend that the Legislature return funding for instructional facilitators to a categorical program, removing the funding from the block grant, and that the Legislature increase funding for instructional facilitators to the full EB Model recommendation. For over a decade and a half,

not only in Wyoming but in other states as well, we have recommended funding IFs as a categorical grant program. States that did not establish categorical programs for IFs found that many fewer IFs were actually hired than allotted by the funding formula. In Wyoming, until the recent decision to place IF funding in the block grant, the actual number of IFs employed by districts was substantially the same as the number allotted. We anticipate that by rolling the resources for IFs into the block grant, Wyoming school districts will hire fewer IFs in the future.

We note that the level of staffing for instructional coaches recommended in the EB Model, combined with the additional elements of PD discussed below, is the best way to make Tier 1 instruction (in the RTI framework) as effective as possible, providing a solid foundation of high-quality instruction for everyone, including students who need extra help to learn to proficiency. Support for IFs as part of the EB Model is bolstered by the study of special education programs and services that was part of the 2020 recalibration (District Management Group, 2020) recommending that IFs be fully funded as a key element of making the general reading program as effective as possible.

8. Core Tutors/Tier 2 Intervention

Tutors are teachers who provide struggling students with extra help to learn to standards. Research shows that the most powerful and effective approach for helping students struggling to meet state standards is individual one-to-one or small group (1-3 or 1-5 maximum) tutoring provided by licensed teachers. In our 2005 and 2010 recalibration reports we recommended allocating tutors to schools solely on the basis of the number of at-risk students, with a minimum of one tutor position for each prototypical sized school. Since then and especially with more rigorous curriculum and student performance standards, the EB Model has recognized that all schools, even those with no at-risk students (ELL, free and reduced lunch eligibility and mobility ADM) have struggling students that need Tier 2 resources. Thus, we augmented the 2015 EB Model to resource each prototypical school with one *core* tutor position based on school ADM **and** additional *at-risk* tutors based on the at-risk count (Element 26).

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 core tutor position for each prototypical 288 elementary school ADM and for every 315 middle or high school ADM, resourced at the highest grade-band level.	If the provision of at-risk tutors (element 26) is less than 1.0, additional tutor resources are provided so that a prototypical school receives a minimum of 1.0 tutor. This minimum is prorated down as school ADM decreases.	Provide 1.0 core tutor position for each prototypical 330 elementary school ADM and for every 315 middle or high school ADM, resourced at the highest grade-band level.

Summary and Recommendation: For decades, research on both individual and small group tutoring (five maximum) provided by licensed teachers found significant, positive impacts on student achievement. A 2020 comprehensive literature review found that tutoring effects were largest for reading in elementary schools and for mathematics in secondary schools when provided by professionals rather than volunteers, and when provided during the regular school day, not after school. Though most tutoring studies focused on elementary reading, several secondary reading interventions have been

developed and shown by RCT research to be effective. Since about 2020, research has shown that a new form of tutoring, called "high dosage" tutoring, has substantial impacts on student achievement and has been scaled up successfully in multiple school districts across the country. For high dosage tutoring, recent college graduates with specific content expertise trained in tutoring strategies provide the tutoring to groups of students – three to five maximum – usually for one period every day of the week, whereas typical tutoring is provided for shorter time periods during the day and not every day during the semester.

The EB Model provides one tutoring position for every prototypical 330-ADM elementary school, and one tutoring position for every prototypical 315-ADM middle and high school, funded at the highest-grade band.

Evidence and Recommendation

Students who must work harder and need more assistance to achieve proficiency levels especially benefit from preventative tutoring (Cohen et al., 1982). For decades, research, including several RCTs, showed that tutoring provided by licensed teachers to both individual students and small groups of students (five maximum) produced significant, positive impacts on student achievement (Cook et al., 2015; Elbaum et al., 2000; May et al., 2013; Nickow et al., 2020; Shanahan, 1998; Wasik & Slavin, 1993). Tutoring program effect sizes varied by the components of the approach used (e.g., the nature and structure of the tutoring program), and effect sizes on student learning reported in meta-analyses range from 0.4 to 2.5 with an average of about 0.75 (Cohen et al., 1982; Shanahan & Barr, 1995; Wasik & Slavin, 1993). Two 2017 meta-analyses of the impact of tutoring found similarly high effects (Dietrichson et al., 2017; Fryer & Noveck, 2017), the former with an average effect size of 0.37.

A July 2020 meta-analysis of tutoring effects also concluded that tutoring had impressive effects on student learning (Nickow et al., 2020) as did a 2021 meta-analysis of tutoring in mathematics (Pelligrini et al., 2021). The Nickow et al. comprehensive literature review found that tutoring effects were largest for reading in elementary schools and for mathematics in secondary schools when provided by professionals rather than volunteers, and when provided during the regular school day, not after school. Tutoring ELL students in a specific literacy intervention in early elementary school can also produce large positive impacts on English literacy (Borman et al., 2024).

Though most past research focused on *individual* tutoring, schools have also created small group tutoring programs. In a detailed review of the evidence on how to structure a variety of early intervention supports to prevent reading failure, Torgeson (2004) showed how one-to-one tutoring, one-to-three tutoring, and one-to-five small group sessions (all Tier 2 interventions) can be combined for different students to enhance their chances of learning to read successfully [see also Elbaum et al. (1999) for a meta-analysis of the structures and impacts of small group tutoring].

Further, over the past five years, schools have created, and analysts have studied, a new type of small group tutoring called "high dosage" tutoring. In high dosage tutoring, recent college

graduates, with specific content expertise, are trained in tutoring strategies and tutor groups of students – three to five maximum – usually for one period every day of the week. Studies show that such tutoring produces substantial positive impacts on student achievement and has been scaled up successfully in several school districts (Cohen, 2024; Kraft & Falken, 2021). We expand on high dosage tutoring in Section 26.

The impact of tutoring programs depends on how they are staffed and organized, their relation to the core program, and tutoring intensity. Researchers (Cohen et al., 1982; Farkas, 1998; Fryer & Noveck, 2017; Gordon, 2009; Kraft & Falken, 2021; Shanahan, 1998; Wasik & Slavin, 1993) have found greater effects when the tutoring includes the following:

- Professional teachers as tutors, or trained college graduates who are experts in a subject matter.
- Tutoring provided to students on a one-to-one basis or in small groups with a maximum of five students.
- 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 for the tutoring during the regular school day.
- Tutoring provided at least three times a week for 45–55-minute sessions.
- Highly structured programming, both substantively and organizationally.

One-to-one tutoring, the costliest tutoring approach, can be reserved for the students with the most severe learning difficulties, such as scoring at or below the 20^{th} or 25^{th} percentile on a norm referenced test, or at the below basic level on state assessments. Intensive instruction for groups of three-to-five students would then be provided for students above those levels but below the proficiency level.

Though most studies of tutoring focused on elementary reading, several effective secondary reading interventions have been developed (e.g., Scammacca et al., 2015) and should be considered by schools as the resources to deploy them are included in the EB Model. Further, a 2014 RCT (Cook et al., 2014) found substantial positive impacts of a tutoring program for adolescents in high poverty schools if it was combined with counseling as well. This dual approach is made possible by the EB Model as it includes the additional non-academic pupil support resources (see Element 27 discussion).

Over the past 15 years, several *online* tutoring programs have been studied. A 2016 meta-analysis of an intelligent, or computer-based, tutoring program found that the average effect size was 0.66 across multiple subjects, increasing student performance from the 50^{th} to the 75^{th} percentile (Kulik & Fletcher, 2016), although the effect varied by type of tutoring. Place et al. (2023) identified several virtual tutoring programs for mathematics that were effective. Ready et al. (2024) describe a 12-week cluster RCT of BookNook, a virtual tutoring platform focused on reading, and found it produced positive impacts. Robinson et al. (2024) in a RCT found a virtual tutoring program was successful in boosting reading performance of students in grades K-2. Hashim et al. (2025) found that there were few differences in the impact of a tutoring program that compared in person to remote, or online, tutoring. These studies show that there is promise

that tutoring provided by online programs can be effective in both reading and mathematics. Sal Kahn, creator of the Kahn Academies, argues that AI could be the "silver bullet" for education and tutoring strategies (Barnum, 2024). However, schools are cautioned to find online tutoring programs that have evidence of their effectiveness. As a further caution, Kraft and Lovison (2024) found that an online tutoring program for middle school mathematics worked better in a one-to-one rather than a one-to-three format.

While tutoring and other extra instructional help interventions are often provided only for reading, math interventions are also needed for struggling students and have similar positive impacts when provided (Schwartz, 2024b). The EB Model provides sufficient tutoring resources to provide needed extra help in both reading and mathematics, particularly given the additional tutoring resource in Element 26.

With the drop in student performance during the COVID pandemic as well as the more rigorous college and career standards that preceded them, educators have argued that substantial numbers of students need extra help. In 2015 we increased the tutor resources in the EB Model from just those triggered by at-risk and ELL student counts, to provide one *core* tutor/Tier 2 intervention position for each prototypical school. We continue that addition recognizing the substantial learning loss caused by the pandemic, in Wyoming as well as most states in the country. And we encourage schools to implement "high dosage" tutoring as one of the most effective and cost-effective tutoring strategies. The support the EB Model provides beyond the first tutor for each prototypical school is discussed again in Element 26 below.

The EB Model provides one tutoring position for every prototypical 330-ADM elementary school, and one tutoring position for every 315-ADM middle and high school, funded at the highest-grade band.

9. Substitute Teachers

Schools need support for substitute teachers to cover classrooms when teachers are sick for short periods of time, absent for other reasons, or on long term leave. In many states, substitute funds are budgeted at a rate of about 10 days per teacher.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide for 5.715% (10 days) of core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. Resourced at a daily salary equal to $120 plus 7.65% for social security and Medicare benefits ($129.18). Daily salary adjusted by regional cost adjustment.	Provide for 5% (8.75 days) of core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. Resourced at a daily salary equal to $118.26 plus 7.65% for social security and Medicare benefits ($127.31). Substitute resources are provided for small schools.	Ten days of substitute teachers are provided for all teachers, including core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. Resourced at a daily salary equal to $261 plus 7.65% for social security and Medicare benefits ($280.97). Daily salary adjusted by regional cost adjustment.

Summary and Recommendation: Schools need some level of support for substitute teachers to cover classrooms when teachers are sick for short periods of time, absent for other reasons, or on long term leave. The EB Model provides 10 days of substitute teachers for every teacher, which includes core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. The EB Model estimated daily rate for 2025-26 is 261 per day.

Evidence and Recommendation

The EB Model teacher work year is 200 days, which includes 180 days for instruction, 10 days for PD, and 10 additional days for opening/closing schools and parent conferences. Thus, under the EB Model, 5% of a teacher work year equals 10 days, so the EB Model provides 10 days of substitute teacher resources for each teacher. Teacher positions are defined as: core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. This approach does not mean that each teacher is provided 10 substitute days a year; it means the district receives a "pot" of money approximately equal to 10 substitute days per year for all teachers, to cover classrooms when teachers are absent for reasons other than PD or sports. PD recommendations, including pupil free days for PD, are provided in a separate section below (Element 16).

The Wyoming Funding Model uses the 5% figure but applies it to the actual average teacher work year of 175 days, providing 8.75 substitute days for each teacher, slightly below the EB Model.

The EB Model recommendation is to provide 10 days of substitute teacher time for every teacher, including core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. Resourced at a daily rate of $261.

10. Core Guidance Counselors and Nurses

To address the wide range of non-academic needs of students, a school's staff should include school counselors and nurses, as well as other pupil support staff including social workers, psychologists, family liaison persons, etc. This section addresses just core school counselors and nurses. Additional pupil support staff, based on the number of at-risk student counts, are described in Element 27 in the section on struggling students.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
COUNSELORS		
Provide 1.0 school counselor position for each prototypical elementary school (288ADM) and 1.0 school counselor position for every 250 ADM in middle and high schools. Provide a minimum of 1.0 counselor position for each district.	For elementary schools, if the provision of at-risk counselor (element 27) is less than 1.0, additional counselor resources are provided so that a prototypical school receives a minimum of 1.0 counselor. This minimum is prorated down as school ADM decreases. For middle and high schools, provide 1.0 counselor position for every 250 ADM.	Provide 1.0 school counselor position for each prototypical elementary school (330 ADM) and 1.0 school counselor position for every 250 ADM in middle and high schools. Provide a minimum of 1.0 counselor position for each district.
NURSES		
Provide 1.0 school nurse position for every 750 ADM. Provide a minimum of one-half nurse position for each district.	No nurses resourced directly, but districts can use minimum pupil support resources as nurse positions.	Provide 1.0 nurse for every prototypical school. Provide a minimum of one-half nurse position for each district.

NOTE: Additional student support resources are provided on the basis of student at-risk students in Element 27.

Summary and Recommendation: The need for school counselors and nurses today is especially urgent given the changing and declining social, health, emotional and mental conditions of children in America and Wyoming, all worsened by the COVID pandemic. Homelessness is high, teenage depression and suicide attempts have been rising since 2007, increasing percentages of students need shots and other medical services during the school day, and there has been a general uptick in variety of mental illnesses. These challenging conditions of children have been exacerbated by social media exposure, argues the psychologist, Jonathan Haidt (2024). The implication of the declining mental health condition of school-aged children is that schools need counselors, nurses, psychologists, and mental health providers.

Research shows that well designed and implemented counseling programs, which provide one counselor for every 250 students, can have significant and positive impacts on student learning, progress through elementary, middle, and high school, graduation from

high school, and postsecondary enrollment. School nurses are also critical elements of the resources today's schools need to address the rising incidence of medical, health, and physical needs of students.

The Wyoming EB Model provides one school counselor position for each prototypical elementary school (330 ADM) and one school counselor position for every 250 ADM in middle and high schools, with a minimum of one counselor for each district. Further, the Wyoming EB Model provides one nurse for every prototypical school with a minimum of one-half position for each district, an increase from the 2020 recommendation of one nurse for every 750 students. Additional pupil support staff (Element 27) are triggered by at-risk student counts.

Evidence and Recommendation

The need for counselors and nurses today is especially urgent given the changing and declining social, health, emotional and mental conditions of children in America and Wyoming, all worsened by the COVID pandemic. Sparks (2019) reported that there were nearly 1.36 million homeless children attending schools in 2017, a rapid rise over previous decade. The National Center for Homeless Education estimated that approximately 1.28 million students experienced homelessness during the 2020-21 school year, a slight reduction from 2017.[15] The Wyoming Department of Education reported that in 2022 there were about 1,734 children, or approximately 1.5% of Wyoming's children experienced homelessness. Many homeless children live independently, some live with other families, while others live in shelters and tents. Homelessness reflects not only a lack of housing and living in poverty, but also a life full of uncertainty and various forms of trauma.

Homeless students need more academic as well as non-academic (counselor) help. In 2016-17 only 30% of children who experienced homelessness were proficient in reading and just 25% were proficient in math (Keierleber, 2019). Keierleber also identified a graduation rate of 64% for homeless students compared to an average of 77.6% graduation rate among other low-income students and a national average of 84.1% for all students. More recently, the U.S. Facts Team (2023) found that homeless students graduate from high school at lower rates than students from low-income households who are not homeless.

Beyond homelessness, Blad (2019) reported a rise in depression among American students, an increase in suicide efforts and a general uptick in variety of mental illnesses. To be sure, some of these maladies are a result of social media bullying, but the bulk is due to dysfunctional families, poverty, lack of health services, homelessness, and recent immigration status that in many instances include traumas as well. Blad reports that there has been a significant increase in episodes of deep depression since 2005, with the incidence for school-aged children significantly above the general population. These trends also hold in Wyoming.[16]

[15] Data on students experiencing homelessness included in this report are collected by the U.S. Department of Education through the EDFacts Initiative. To learn more about the EDFacts Initiative, visit https://www2.ed.gov/about/inits/ed/edfacts/index.html.

[16] https://www.americashealthrankings.org/explore/measures/Depression_a/wy

Burstein et al. (2019) documented the doubling of suicide attempts by American teenagers over the last decade. Using data from the National Hospital Ambulatory Medical Care Survey, administered annually by the US Centers for Disease Control and Prevention, the study found that the number of children and teens in the United States who visited emergency rooms for suicidal thoughts and suicide attempts doubled between 2007 and 2015. The findings came as no surprise to child psychiatrists, with most saying they knew that suicide and depression had been rising significantly. The findings sadly show that for America's teens, emotional distress and propensity toward self-harm grew more than for any other age group of Americans over this time period. In 2022, the suicide rate for Wyoming young people aged 15-19 at 25.4 per 100,000 population, ranking Wyoming 44th of the 50 states.[17]

The COVID pandemic focused more attention on these social and emotional issues. Norman (2022) identified increases in students' social, emotional and behavioral issues after the pandemic. Williams and Drake (2022) documented worsening health and physical issues, delayed vaccinations, decreased access to dental care, adolescent increases in stress, eating disorders, drug overdose, self-harm, and a decrease in social interaction and mental health, all leading to social and emotional issues complicating learning as students entered the 2022-23 school year. Forest et al. (2025) showed how U.S. children's health has deteriorated since 2007 including child mortality, chronic physical, developmental, mental health conditions, obesity, sleep health, early puberty, limitations in activity, and physical and emotional symptoms. The study found that a child was 15-20% more likely to have a chronic condition in 2023 than 2007, including depression, obesity, anxiety, sleep apnea, behavioral problems and attention-deficit disorder.

In other words, the physical and medical needs of students have also changed and worsened in recent decades. Rising numbers of students need medications administered during the school day, requiring staff to administer the medications. Our Professional Judgment Panel meetings with educators in multiple states, including Wyoming, over the past decade confirmed the presence of all the above issues.

Haidt (2024) has written a book on how the current culture in America, including smart phones as well as technology platforms such as Facebook, Twitter and Tik Tok, have damaged the country's youth. He argues that these technologies expose children and teenagers to a series of *adult* experiences that as teenagers they are not prepared to handle and has led to rising episodes of mental illness among the youth of our country. Whether one accepts his main arguments about the pernicious impacts of these technologies, the problematic conditions of children he documents are nevertheless alarming. He documents the rising incidence of mental crises among adolescents from 2010 to 2015, in the United States as well as many other countries. He goes on to show the incidence of depression rose 145% to nearly 30% for girls from 2010 to 2020 and 161% to about 12% for boys over the same time period. He further documents a similar rise of mental illness over the same time period for college students, as well as steep increases in anxiety for young people. Linked to these issues are hikes in suicide rates for both boys and girls and a huge increase in emergency room visits by girls for self-harm (e.g., cutting themselves). Though Haidt attributes much of these mental issues to Facebook and mobile phones, as the

[17] https://www.americashealthrankings.org/explore/measures/teen_suicide/WY

instrument mostly used by adolescents to access Facebook, his documentation of these psychological issues is sobering. And it is schools that are now dealing with the fall out of these issues, all of which were exacerbated by the isolation of children during the Pandemic.

The implication of the declining conditions of school-aged children is that schools need more counselors, nurses, psychologists, and perhaps even mental health providers. Underscoring Haidt's data, Peterson (2022) reports that since COVID more students are being screened for anxiety, depression and other mental issues, but with insufficient follow-through treatment.

Unfortunately, only three states provide counselors in secondary schools at the rates recommended by the American School Counselor Association of one counselor for every 250 students – the ratio used in the EB Model. Only three states meet the standard of one school psychologist for every 750 students, and few if any states meet the standard of one nurse for every school or one nurse for every 750 students, promulgated by the National Association of School Nurses (2020).[18] But the above data on the conditions of children show that the EB Model's counselor, psychologist and nurse recommendations are crucial to student learning and wellbeing, as are the additional pupil support staff described in Element 22 below, which are triggered by at-risk pupil counts. It is possible that even this level of mental health professionals will be inadequate. In response to this growing need, we recommend that rather than increase EB Model allocations for mental health services, these staff should be provided by the state and county social services and medical and health departments unless a state adopts a specific policy to incorporate them into the education system.

Counselors: In terms of the specifics of the job itself, school counselors provide multiple functions in schools. School counselors help all students to:

- Apply academic achievement strategies,
- Manage emotions and apply interpersonal skills, and
- Plan for postsecondary options (e.g., higher education, military, work force).

Appropriate duties for school counselors include providing:

- Individual student academic planning and goal setting.
- School counseling classroom lessons based on student success standards.
- Short-term counseling to students.
- Referrals for long-term support.
- Collaboration with families/teachers/administrators/community for student success.
- Advocacy for students at individual education plan meetings and other student-focused meetings.
- Data analysis to identify student issues, needs and challenges.

Research shows that well designed and implemented counseling programs can have significant and positive impacts on student learning as measured by: progress through elementary, middle, and high school; graduation from high school and postsecondary enrollment. Carrell and Carrell

[18] https://www.nasn.org/

(2006) found that counselor to student ratios closer to those suggested by the American School Counselor Association (one counselor for every 250 secondary students) reduce disciplinary referrals and the effect is larger for low income and minority students. Lapan et al. (2012) found that Missouri high schools that had lower student-to-counselor ratios (higher counselor to student ratios) had higher student graduation rates, a finding that was strongest for schools with concentrations of Title I eligible students. Wilkerson et al. (2013) showed that elementary school counselor programs in Indiana that used the model of school counselors developed by the American School Counselors Association produced significantly higher elementary student proficiency rates in math and English/language arts than schools that did not. Carrell and Hoekstra (2013) found that increasing the number of counselors significantly improves boys' academic achievement, with the increases equivalent to increasing teacher quality by an effect size of 0.3. Studies in Connecticut, Indiana and New York found that school counselor programs that reflected the 1:250 ratio of the American School Counselor Association had significant, positive correlations with lower high school student absenteeism and higher SAT math, verbal and writing scores (Parzych et al., 2019).

Other studies have found that well designed and implemented group counseling programs, especially for African American and ELL students, can increase those students' achievement scores as well as reduce demographic related achievement gaps (Bruce et al., 2009; Leon et al., 2011). Carey and Dimmitt (2012) identified the specific counselor activities that led to improved student performance. Davis et al. (2013) show how specific counselor actions can enhance school offerings of and effective minority participation in AP classes. Castlemen and Goodman (2018) found causative evidence that an intensive college counseling program in Massachusetts targeted to lower income students increased those students' selection of four-year colleges that were less expensive and had higher graduation rates than alternatives students otherwise chose. Sparks and Mulhern (2024) found that California's supplemental counseling program that increased counselors in all districts had positive effects on high school graduation and enrollment in postsecondary programs, with the largest effects on low-income and minority students, even though the additional counselors had less experience on average.

In synthesizing the research on counselor effectiveness, Meyer and Bell (2023) concluded that counselor staffing closer to the ASCA ratios does improve student academic and performance outcomes. In sum, schools that have counselor ratios at or better than the 1:250 figure can produce multiple positive impacts on students, including increased achievement on state and local assessments, and more success in postsecondary schools.

As a cautionary note, Mulhern (2022), who studied the causal effects of counselors on Massachusetts high school students, found that counselors have varying impacts on students in terms of graduation rates, college selection and persistence. Though, overall, she found that counselors have positive impacts on these variables, she argued that providing effective counselors is more important than just providing more counselors.

Brown and Knight (2024) provide a comprehensive description of the history of school counselors, the linkage of school counselor ratios to student performance, the wide disparity in student-to-counselor ratios across the county, particularly for schools with large concentrations of at-risk students. They argue that enhanced funding for school counselors, akin to those

recommended by the EB Model, is needed everywhere, with even more funding for schools with larger numbers of at-risk students.

Meyer and Bell (2023) report that 30 states mandate counselors for secondary students and reinforce the research findings that secondary school counselors can have significant impacts on students, including more success in postsecondary school. The EB Model uses the standards from the American School Counselor Association[19] that recommend one counselor for every 250 secondary (middle and high school) students.

Though fewer states today require counselors in elementary schools, a growing number of schools in states that do not require counselors at the elementary level have begun to employ them, including Wyoming. Meyer and Bell (2023) report that 23 states mandate counselors for elementary students. Further, they identify research that finds that increasing counselors in elementary schools positively impacts student behavior and academic outcomes. Consequently, the EB Model today includes one school counselor for the 330-student prototypical elementary school.

Social Emotional Learning: Counselors can also take the lead in developing a school's approach to social and emotional learning, a set of strategies to strengthen students' emotional health, relationship building, behavioral practices and mental health. Though social emotional learning should be thought of more as a schoolwide issue and a characteristic of a school's culture (Mehta, 2020), there are multiple programs and strategies that are known to be effective in improving students' social-behavioral competence and mental health (Durlak et al., 2011; Sheridan et al., 2019). Levenson (2017) identifies 10 best practices in designing social emotional learning programs. With the robust overall school staffing provided by the EB Model, including core school counselors and additional pupil support staff triggered by at-risk pupil counts in Element 27, schools have the resources to mount comprehensive strategies addressed to enhancing students' social and emotional learning and competencies.

Nurses: School nurses are also critical elements of the variety of pupil support staff today's schools need to address the rising incidence of health, physical, emotional and mental health needs of students. Consequently, the EB Model provides nurses as core positions. Drawing from the staffing standard of the National Association of School Nurses,[20] the EB Model initially provided core school nurses at the rate of one nurse position for every 750 students. But after working in multiple states and interreacting with dozens of educator panels, we have increased the nurse allocation to one school nurse for every prototypical elementary, middle and high school, with additional pupil support staff provided by at-risk student counts as a way for the EB Model to provide even more resources for the social, emotional, health and mental health needs of today's students.

The Wyoming EB Model provides one counselor position for every 330-ADM elementary school and for every 250 middle and high school ADM, with a minimum of counselor for each

[19] https://www.schoolcounselor.org/
[20] https://www.nasn.org/

district and provides one school nurse position for each prototypical elementary, and 315-student middle and high school, with a minimum of one-half nurse for each district.

11. Supervisory Aides

Elementary, middle and high schools need staff for non-academic duties that include lunch supervision, hallway monitoring, before and after school playground supervision, monitoring entrances and exits, and others. Covering these duties generally requires an allocation of supervisory aides. These staff are provided to cover the non-academic tasks that must be performed in schools but are not intended to be used for instructional purposes, such as a teacher's aide.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide funding at an amount equal to 2.0 supervisory aide positions for each prototypical elementary school (288ADM); 2.0 supervisory aide positions for each prototypical middle school (315 ADM); 3.0 supervisory aide positions each prototypical high school (630 ADM); resourced at the highest-grade prototype using total school ADM.	Provide funding at an amount equal to 2.0 supervisory aide positions for each prototypical elementary school (288 ADM); 2.0 supervisory aide positions for each prototypical middle school (315 ADM); 5.0 supervisory aide positions each prototypical high school (630 ADM); resourced at the highest-grade prototype using total school ADM.	Provide funding at an amount equal to 2.0 supervisory aide positions for each prototypical elementary school (330 ADM); 2.0 supervisory aide positions for each prototypical middle school (315 ADM); 3.0 supervisory aide positions each prototypical high school (630 ADM); resourced at the highest-grade prototype using total school ADM.

Summary and Recommendation: Elementary, middle and high schools need staff for non-instructional responsibilities that include lunch duty, hallway monitoring, before and after school playground supervision, and other non-instructional tasks. Covering these duties generally requires an allocation of supervisory aides.

The Wyoming EB Model provides two supervisory aides for the 330-ADM prototypical elementary school, two supervisory aides for the prototypical 315-ADM middle school and three supervisory aides for the prototypical 630-ADM high school. The EB Model provides no instructional aides.

Evidence and Recommendation

Elementary, middle and high schools need staff for non-instructional responsibilities. These can vary by school level and district but include such tasks as lunch duty, hallway monitoring, before and after school playground supervision, monitoring school entrances and exits, and other non-instructional tasks. Covering these duties generally requires an allocation of supervisory aides.

The EB Model provides resources for supervisory aides so that teachers do not have to cover non-academic duties, which in the past has been the practice of some districts. The EB Model

provides an array of resources – elective teachers and supervisory aides – to provide teachers with pupil-free time but the major purpose of this pupil-free time is to enable teachers to engage in collaborate work over the curriculum program during this pupil-free time during the regular school day and not engage in non-academic tasks.

The Wyoming EB Model provides two supervisory aides for the prototypical 330-student elementary school, two supervisory aides for the prototypical 315-student middle school and three supervisory aides for the prototypical 630-student high school.

Instructional Aides. Research does not support the use of instructional aides to improve student performance. As noted above (Element 2), the Tennessee STAR study, which produced solid evidence through a field-based RCT that small classes work in elementary schools, also produced evidence that instructional aides in a regular-sized classroom do not add instructional value, i.e., do not positively impact student achievement (Gerber et al., 2001). Indeed, the study had three groups that were randomly created: small classes with 14-17 students, regular classes of about 24 students with a teacher's aide, and a regular class of about 24 students. The study found no significant positive impact for the class of 24 students with a teacher and a teacher aide.

At the same time, districts may want to consider a possible use of instructional aides that is supported by research. Two studies show how instructional aides could be used to tutor students. Farkas (1998) has shown that *if* aides are selected according to clear and rigorous literacy criteria and *if* aides are trained in a specific reading tutoring program, and after that provide individual tutoring to students in reading and are supervised, then they can have a significant impact on student reading attainment. Some districts have used Farkas-type tutors for students still struggling in reading in the upper elementary grades. Another study by Miller (2003) showed instructional aides could also have an impact on reading achievement if used to provide individual tutoring to struggling students in the first grade. Neither study supports the typical use of instructional aides as general teacher helpers. And both find that aides have a smaller impact than a licensed teacher. Nickow et al. (2020) also found that paraprofessionals, appropriately trained and supervised, can provide effective tutoring instruction, but their impacts are less than those of teachers.

An even better tutoring approach that does not include certified teachers is that of "high dosage" tutoring (Discussed in Elements 2 and 26) which uses trained, college graduates (so not the non-college graduate that is the typical paraprofessional) with a subject matter major, to provide tutoring to small groups of students for three to five periods every week.

Tutors with sufficient academic preparation, including a degree in a subject area, and training in specific tutoring strategies, could be funded through the tutoring positions in Elements 2 and 26, but should not resourced from the supervisory aide allocation, unless all non-academic duties are covered by the supervisory aide allocation, and there are funds left over.

The Wyoming EB Model provides two supervisory aides for the 330-ADM prototypical elementary school, two supervisory aides for the prototypical 315-ADM middle school and three supervisory aides for the prototypical 630-ADM high school. The EB Model provides no instructional aides.

12. Librarians, Library Aides, and Library Media Technicians

Most schools have a library. Staff resources must be sufficient to operate the library and to incorporate appropriate technologies into the library system.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Librarian Positions: For elementary schools, provide librarian resources at the following levels: for elementary schools with ADM less than 96 ADM, prorate a 0.50 librarian position down; for elementary schools with ADM between 96 and 143, provide a 0.50 librarian position; for elementary schools with ADM between 143 and 288, provide a 1.0 librarian position prorated down to 143 ADM. For middle and high schools, provide librarian resources at the following levels: for middle and high schools with ADM less than 105 ADM, prorate a 0.50 librarian position down; for middle and high schools with ADM between 105 and 157.5, provide a 0.50 librarian position; for middle and high schools with ADM between 157.5 and 315, provide a 1.0 librarian position prorated down to 157.5 ADM. For all school districts, provide a minimum of 1.0 librarian position. Library Aide Positions: For elementary schools, provide library aide resources at the following levels: for	Librarian Positions: Provide 1.0 librarian position for prototypical elementary schools (288 ADM) prorate up and down, below and above 288 ADM. For middle or high schools with ADM between 105 and 630 ADM, 1.0 librarian position. Below 105 ADM prorate down and above 630 ADM prorate up. School Computer Technician Position: Provide 1.0 school computer technician position for every 315 middle and high school ADM, prorated up and down.	Librarian Positions: Provide 1.0 librarian position for every 330 elementary ADM, for every 315 middle school ADM and for every 630 high school ADM, prorating up library aides for schools with more than those number of students, and providing a minimum of a 0.5 librarian for each district. School Computer Technicians: All computer and technology staff funded through the central office staffing component of the EB model.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
elementary schools with ADM greater than 288, prorate a 1.0 library aide position between 288 and 576 ADM; for elementary schools with more than 576 ADM, provide an additional library aide position for every 630 ADM. For middle and high schools, prorate up 1.0 library aide from 315 to 945 ADM prorate up 1.0 library aide for every additional 630 ADM. School Computer Technician: Position directed by District: Provide 1.0 school computer technician position for every 630 district ADM, with a minimum of a 0.5 position for each district.		

The following section discusses library staffing in a manner that distinguishes library staff – librarians, library media staff and library aides– from school computer technicians who provide computer technical help to schools. This analysis clarifies how school computer technicians evolved from library media aides – individuals who set up audio-visual equipment for teachers – to individuals who became the first line computer technical helpers and should be considered a separate staff category. Today school computer technicians typically operate out of the district's technology office and not the library, though they are often supervised when on campus by school principals in schools large enough to generate a full position or more.

Librarians

> **Summary and Recommendation**: Though research on the impact of libraries and librarians on student achievement is mixed (due mainly to separating the specific impact of librarians), multiple research studies conclude that libraries and librarians can play a role in increasing student achievement. Research shows that libraries, certified librarians and operating hours are generally associated with higher academic outcomes.
>
> The EB Model provides one librarian position for every 330 elementary ADM, for every 315 middle school ADM, and for every 630 high school ADM, providing a minimum of a one-half librarian for each district. Above these levels, no additional librarians are resourced, rather library aides are resourced on a prorated basis for schools with more than those number of students.

Evidence and Recommendation

The importance of the school library as a resource-rich learning center has developed and evolved over time, especially with the addition of technology. In libraries, students can explore and individualize their learning experience, using all modalities of learning, through access to both electronic and print materials that enhance the curriculum. In the past, both electronic and print materials were located primarily in the library, but that has changed. Most digital library resources today have moved from being available only over library networks to being available anytime and anywhere through the internet. This allows students to access the "library" from any place if they have a computer and an internet connection. With this shift, the value of the library as a physical location that provides access to electronic resources has declined, yet this same change enhances the librarian's role as a guide to digital resources, a teacher of digital media literacy, and an important member of the school's instructional literacy teams. The library experience becomes more valuable to students and staff when libraries are staffed with certificated librarians that help students effectively search, cull, and synthesize information found in books, magazines, and myriad internet resources.

Although the methodology and rigor used in school library research varies, an increased number of library staff and operating hours are generally associated with higher academic outcomes. There is considerable anecdotal data about how librarians may enhance student learning and achievement. Some studies demonstrate positive benefits; yet many of these benefits could be attributed to other sources or resources; it is often difficult to establish direct causality (American Association of School Librarians, 2014).

Despite these challenges, various research sources report that libraries and librarians can play a role in increasing student achievement. In a 1992 review of the literature, Lance et al. concluded that libraries and librarians do positively impact student achievement. In 2003, six states conducted studies of the impacts of librarians on student achievement: Florida, Minnesota, Michigan, Missouri, New Mexico and North Carolina. The general finding was, regardless of family income, children with access to certified librarians working full time performed better on state reading assessments (Rodney et al., 2003; Lance & Hofschire, 2012). The Michigan study found that a school librarian, whether certified or not, was associated with better low-income student achievement, but having a certified librarian was associated with higher achievement gains (Rodney et al., 2003). Each state examined the issue differently, but library staffing and the number of operating hours were generally associated with higher academic outcomes.

Statewide studies the following decade also found that school libraries and certified librarians have an impact on student achievement including increasing standardized test scores and student mastery of academic performance standards regardless of school funding levels or demographics (Coker, 2015; Lance & Kachel, 2018; Lance & Hofschire, 2012; Lance et al., 2014; Scholastic, 2016). Lance and Schwarz (2012) in a study of the impact of certified librarians in Pennsylvania came to the same conclusion and argued that results of 22 other studies documented the positive impact of certified librarians on student performance. Other research emphasizes that the role that the school librarian plays within the school can be more impactful when the librarian is an integral part of the school faculty and acts as a member of the "literacy instruction team" [grade

or subject collaborative teams] or as a technology coach (Lewis, 2016; Reed, 2018; U.S. Department of Education, 2017).

In a meta-analysis of multiple studies, Wine (2020) found that most studies found a positive impact of certified librarians on student performance, with effect sizes ranging from 0.03 to 0.25. She concluded that research finds that full time certified librarians have a positive impact on both students' reading and mathematics achievement scores. Wine et al. (2023) confirmed this conclusion with a study of the impact of librarians on student math and reading scores in North Carolina.

National longitudinal research utilizing data from the years 2005 and 2011 indicated that states that increased the number of librarians over time had greater gains in fourth grade reading scores on the National Assessment of Educational Progress (NAEP) than states that lost librarians (Lance & Hofschire, 2012). This finding is particularly important given that Lance and Kachel (2021) show that there were 20% fewer librarians in 2020 than in 2010.

Libraries must be adequately staffed and be open to students. Research is silent on the number of staff members required to provide adequate service to school staff and students. Because of the lack of literature on library staffing numbers, it is appropriate to examine general practices across states to understand library staffing across America.

Using data from the 2020-21 school year, NCES (2022b) found the average number of school librarians/media staff was 0.9 FTE across all schools. For elementary schools with less than 150 students, the average number of librarians/media staff was 0.6. As the number of students in an elementary school increased to 750 students and higher, the average number of librarians only grew to about one librarian. While the student population more than tripled, total librarians only increased by approximately 50%. In middle and high schools, however, schools of all sizes, except those with less than 150 students, had about 1.0 librarian/media staff, and larger schools hired additional librarian/media aides rather than additional librarians. The data implies that once a library has sufficient staff to meet the basic demands such as opening the doors and running the counter, additional personnel are hired at a much slower rate and in many cases not at all, except for very large secondary schools. These practices suggest that providing a full-time librarian for each of the EB prototypical schools would follow average national practice.

The 2025 EB Model recommendation provides one librarian for every 330 elementary ADM, one librarian for every 315 middle school ADM, and one librarian position for every 630 high school ADM, prorating up library aides for schools with more than those number of students, and providing a minimum of a one-half librarian position for each district.

School Computer Technicians

Since our initial recalibration in 2005, school computing and technology has changed dramatically. Element 19 of this section describes the current EB Model recommendations for computers and technology for schools and districts. Along with these changes have come vast differences in the way computers are managed and maintained. It is now possible to manage most computer systems remotely when problems arise or software needs to be updated, and with

student data and curriculum materials stored in the cloud, replacement computers are straightforward to provide quickly when needed. Moreover the "tech knowledge" of school level employees has improved to the point where the assistance envisioned in earlier EB reports is no longer required at the school site. Consequently, our staffing recommendations for computer technology are all included now in Element 23, central office staffing. Discussion of technology needs are included in Element 19 which includes computers and technology.

13. Principals and Assistant Principals

Every school unit needs a principal. There is no research evidence on the performance of schools with or without a principal. All comprehensive school designs, and school designs from all professional judgment studies around the country include a principal for every school unit.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 principal position for all schools down to 96 ADM for elementary schools and 105 ADM for middle and high schools. Provide 1.0 assistant principal position for every 288 elementary ADM beginning at 289 ADM and for elementary schools below 96 ADM; 1.0 assistant principal for every 315 middle and high school ADM beginning at 316 ADM and for middle and high schools below 105 ADM. Resourced at the highest-grade band level.	Provide 1.0 principal position for all schools down to 96 ADM for elementary schools and 105 ADM for middle and high schools, prorated by ADM below 105 ADM down to 49 ADM, resourced at the highest-grade band level. Provide 1.0 assistant principal position for every 288 elementary ADM beginning at 289 ADM;1.0 assistant principal for every 315 middle and high school ADM beginning at 316 ADM.	Provide 1.0 principal position for all schools down to 110 ADM for elementary schools and 105 ADM for middle and high schools. Provide 1.0 assistant principal position for every 330 elementary ADM beginning at 331 ADM and for elementary schools below 110 ADM; 1.0 assistant principal for every 315 middle and high school ADM beginning at 316 ADM and for middle and high schools below 105 ADM. Resourced at the highest-grade band level.

Summary and Recommendation: Much has been written about the importance of school principals. Studies of schools that boost student learning always identify the important role played by the school's principal in managing the school building, creating a culture of respect and high expectations, organizing the multiple school elements needed to improve teachers' instructional expertise, managing the demands on teacher and principal time, handling the politics of the community, and managing the school. Nearly all high performing schools, including those we have studied as part of state adequacy projects, including those in Wyoming, have strong principal leaders.

The EB Model provides for one principal position for every prototypical elementary (110 ADM), middle and high school (105 ADM), prorates up assistant principals for schools

larger than the prototypes (330 ADM elementary and 315 ADM middle and high school), and provides an assistant principal position for elementary schools with fewer than 110 ADM, and middle and high schools with fewer than 105 ADM.

Evidence and Recommendation

Much has been written about the importance of school principals. Studies of schools that boost student learning always identify the important role of the principal. Nearly all high performing schools, including those we have studied as part of state adequacy projects, including schools in Wyoming, have strong principal leaders. Chenoweth and Theokas (2011) provide one of the most readable descriptions of the various roles principals play in creating and leading effective schools. These roles include instructional leadership, managing the building, creating a culture of respect and high expectations for students and teachers, and managing outside relationships. Principals who want to "get it done," meaning produce large gains in student learning while also reducing achievement gaps, would be wise to read this helpful book.

Neumerski (2012) and Sebastian et al. (2016) review the knowledge about the principal's role in instructional leadership and update that knowledge base in relation to current findings on the emerging roles of teachers and instructional coaches – individuals who also provide instructional leadership inside schools. Their studies identify ways the multiple role can be integrated to ensure that a robust set of coordinated, direct and indirect instructional leadership functions exist in schools – all of which are compatible with the EB Model's leadership resources. Chenoweth's (2017) book on cases of schools that improve student achievement provides additional details on the management and leadership tasks of principals who have successfully turned around schools, started effective schools from scratch, or led schools to even higher levels of performance.

Liebowitz and Porter's (2019) review of the impact principals have on several critical elements of schools – including student performance – found that principals have large and significant effects on all aspects of schools including: student achievement (effect size up to 0.16 SD); teacher well-being (~0.35 SD) ; teacher instructional practice (0.35 SD); and school organizational health (0.72-0.81 SD). In a review of numerous studies of the impact of principals on student learning, Grissom et al. (2021) find that the effect of a principal at the 75th percentile of effectiveness is as great as that of a teacher at the 75th percentile. The implication is that principals can have large impacts on student learning but that they need a high level of skills and competencies to produce those effects. These results provide evidence that principals positively impact both instructional leadership and overall school management, so both skills are important for their schools to be effective.

Studies by the Chicago Consortium on School Research (e.g., Gordon & Hart, 2022) agree with these findings. The Wallace Foundation's work on how principals lead and manage schools for success today extend these findings and contextualizes them to the changes that have occurred in the principalship over the past 10 years: increasing numbers of female principals, a decline in the years of experience of principals, and the changing demographics of students and teachers (Grissom et al., 2021). Theoharis (2024) reaffirms these conclusions with a series of case studies showing how principals lead and manage schools to improve learning conditions for all students, which leads to improved student performance and reduced achievement gaps.

There is no research evidence on the performance of schools without a principal. The fact is that essentially all schools have a principal. All comprehensive school designs, and all prototypical school designs from all professional judgment and EB studies around the country, and nearly all charter schools include a principal for every school unit (Aportela et al., 2014).

The EB Model provides for one principal position for every prototypical elementary (110 ADM), middle and high school (105 ADM), prorates up assistant principals for schools larger than the prototypes (330 ADM elementary and 315 ADM middle and high school), and provides one assistant principal position for elementary schools with fewer than 110 ADM, and middle and high schools with fewer than 105 ADM.

14. School Site Secretarial Staff

Every school site needs secretarial support to provide clerical and administrative support to administrators and teachers, to answer the telephone, greet parents when they visit the school, help with paperwork, etc. In the current Wyoming Funding Model, but not the EB Model, secretary positions are distinguished from clerical positions, the fundamental difference being secretaries have a 12-month appointment and clerical staff school year appointments.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Secretarial Staff: Provide 1.0 secretary position for all prototypical schools down to 110 elementary ADM and 105 middle and high school ADM, prorated by ADM below these ADM levels. Provide an additional 1.0 secretary position for every 288 elementary ADM starting at 289 ADM and every 315 middle and high school ADM starting at 315 ADM. **Clerical Staff**: Provide 1.0 clerical position for every 288 elementary ADM and 315 middle school ADM, prorated above and below 288 elementary ADM and 315 middle school ADM. Provide 2.0 clerical positions for every 630 high school	Provide 1.0 secretary for all schools down to 96 ADM for elementary and 105 ADM for middle and high schools, prorated by ADM below these ADM levels. Provide 1.0 secretary for 105 to 315 middle school ADM, prorated down below 105 ADM and prorated up for 316 ADM and above. Provide 1.0 FTE secretary for 105 to 630 high school ADM, prorated down below 105 ADM and prorated up for 631 ADM and above. Resourced at the highest-grade prototype using total school ADM. Provide1.0 clerical for 288 ADM prototypical elementary school.	**Simplify the formula to provide just secretary staff.** Provide 2.0 secretary positions for every prototypical 330 ADM elementary school, prorated down to 1.5 at 220 ADM, then prorated down to 1.0 at 110 ADM and prorated by ADM below this level. Prorated up above 330 ADM at a rate of 1.0 for every 165 elementary students. Provide 2.0 secretary positions for every prototypical 315 ADM middle school, prorated down to 1.5 at 210 ADM, then prorated down to 1.0 at 105 ADM and prorated by ADM below this level. Prorated up above 315 ADM at a rate of 1

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
ADM, prorated above and below 630 ADM. All FTE positions prorated up or down and resourced at the highest-grade prototype using total school ADM.	Provide 1.0 clerical for ADM prototypical middle school. Provide 2.0 clerical for 315 ADM prototypical high school (total of 4.0 secretaries for 630 students). All FTE positions prorated up or down from prototypical level and resourced at the highest-grade prototype using total school ADM.	for every157.5 middle school students. Provide 3.0 secretary positions for all prototypical high schools reduced to two for 315 ADM prorated down to 1.5 at 210 ADM, then prorated down to 1.0 at 105 ADM and prorated by ADM below this level. Prorated up above 630 at a rate of 1 for every 210 high school ADM. All FTE positions prorated up or down from prototypical level and resourced at the highest-grade prototype using total school ADM.

Evidence and Recommendation

The secretarial ratios included in the EB Model generally are derived from common practices across the country. We conducted a search of education literature on school performance for a 2020 adequacy study in Wyoming and our research assistants confirmed they could not find any research on the impact secretarial staff have on student outcomes; yet it is impossible to have a school operate without adequate staff support.

The EB Model generally provides two secretary positions for the prototypical 330-ADM elementary school, two secretaries for the prototypical 315-ADM middle school and three secretarial positions for the prototypical 630-ADM high school, with prorations as described in the above table to ensure all schools have one secretary at the 110-ADM (elementary), and 105-ADM level (middle and high school).

Dollar per Student Resources

This section addresses areas that are funded by dollar per student amounts, including gifted and talented, PD, computers and other technology, instructional materials and supplies, CTE equipment and supplies, and extra duty/student activities.

15. Gifted and Talented Students[21]

A complete analysis of educational adequacy should include the gifted, talented, able, ambitious and creative students, most of who perform above state proficiency standards. Gifted and talented programs are important for all states whose citizens desire improved performance for students at all levels of achievement. Wyoming law (W.S. 21-9-101(c)(ii)) requires the following: … each school district within this state shall provide programs designed for the special needs of those student populations defined within this subsection … (ii) Gifted and talented students identified by professionals and other qualified individuals as having outstanding abilities, who are capable of high performance and whose abilities, talents and potential require qualitatively differentiated educational programs and services beyond those normally provided by the regular school program in order to realize their contribution to self and society."

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide an amount equal to $40 per ADM, inflated annually	Provide an amount equal to $61.26 per ADM, inflated annually by the statutory ECA for supplies.	Provide an amount equal to $25 per ADM, inflated annually by the EB Model ECA for supplies.

Summary and Recommendation: Research shows that developing the potential of gifted and talented students requires: 1) efforts to discover all gifted and talented students including focused efforts to identify talented low income and/or culturally diverse students, 2) curriculum materials designed to meet the needs of talented learners, 3) acceleration of the curriculum, and 4) teacher training in how teachers can work effectively with talented learners. Overall, research on gifted programs indicates the effects on student achievement vary by the strategy of the intervention. Enriched classes for gifted and talented students, the costliest approach, produce effect sizes of about +0.40 and accelerated classes for gifted and talented students, which require little if any extra cost, produce larger effective sizes of +0.90.

At the elementary and middle school levels, best practices are 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 gifted students skip grades. The main approach to serve gifted students in high schools is to enroll them in advanced courses, such as Advanced Placement (AP) and the International Baccalaureate (IB), to participate in dual enrollment in postsecondary institutions, or to have them take courses through distance learning mechanisms. These strategies have little or no cost, except for teacher training, resources provided by PD (Element 16).

The EB Model dollar per pupil recommendation, $25 per ADM, can provide access for all students to an internet-based program that addresses a range of giftedness characteristics including such things as entrepreneurial and related activities.

[21] This section draws from an unpublished literature review written by Dr. Ann Robinson, Professor, University of Arkansas at Little Rock.

Evidence and Recommendation

Research shows that developing the potential of gifted and talented students requires the following (National Association for Gifted Children, 2025; National Center for Research on Gifted Education, 2025).

- Efforts to discover gifted and talented students including efforts specifically to identify the talents of low income and/or culturally diverse students,
- Curriculum materials designed specifically to meet the needs of talented learners,
- Acceleration of the curriculum, and
- Special teacher training in how teachers can work effectively with talented learners.

Discovering Hidden Talents in Low-Income and/or Culturally Diverse High Ability Learners

Providing services to gifted and talented students has become controversial across the country. One major controversy seems to be over the demographics of enrollments in specialized schools in urban and suburban districts, which often have a lower percentage of low income and minority students than the broader population. Another controversy in many districts is a disinclination to provide services for the gifted, on the assumption that doing so detracts from providing extra help for struggling students. The EB Model recognizes the need to provide extra services for students with high levels of gifts and talents, but in a way that all such students, including those from low income and minority backgrounds, have access to such services. The EB Model also provides a robust set of extra services for students struggling to meet standards, the bulk of whom are from low income or minority backgrounds.

Research studies show the use of performance assessments, nonverbal measures, open-ended tasks, extended try-out and transitional periods, and inclusive definitions and policies produce increased and more equitable identification practices for high ability culturally diverse and/or low-income learners. A 2019 survey of 800 teachers of gifted and talented students and an additional number of district coordinators of gifted and talented programs found that 60% of respondents reported that African American and ELL students were still underrepresented in gifted education; over 50% of respondents felt the same was true for children from lower income backgrounds as well as for children with disabilities (Mitchell, 2019). The results suggest the country, and probably Wyoming as well, still has a long way to go to meet the needs of all gifted children, especially these subgroups (Harwin, 2019).

The implication is that schools must use multiple strategies to identify students with gifts and talents, including particular attention to identifying gifted students from low income and minority backgrounds (see also National Center for Research on Gifted Education, 2025). Access to specialized services for talented learners in the elementary years is especially important for increased achievement among vulnerable students. For example, high-ability, culturally diverse learners who participated in three or more years of specialized elementary and/or middle school programming had higher achievement at high school graduation, as well as other measures of school achievement, than a comparable group of high ability students who did not participate (Struck, 2003).

Access to Curriculum

Overall, research shows curriculum programs specifically designed for talented learners produce greater learning than regular academic programs. Increased complexity of the curricular material is a key factor. Large-scale curriculum projects in science and mathematics in the 1960s, such as the School Mathematics Study Group (SMSG), the Biological Sciences Curriculum Study (BCSC), the Physical Science Study Committee (PSSC), and the Chemical Bond Approach (CBA), benefited academically talented learners (Gallagher, 2002). Further, curriculum projects in the 1990s designed to increase the achievement of talented learners in core content areas such as language arts, science, and social studies produced academic gains in persuasive writing and literary analysis (VanTassel-Baska et al., 1996; VanTassel-Baska et al., 2002), scientific understanding of variables (VanTassel-Baska et al., 1998), and problem generation and social studies content acquisition (Gallagher & Stepien, 1996). STEM (Science, technology, engineering and mathematics) programs in the 21st century have produced multiple curriculum programs for advanced students.

Access to Acceleration

Because academically talented students learn quickly, one effective option for serving them is acceleration of the curriculum. Many educators and members of the general public believe acceleration means skipping a grade. However, there are multiple types of acceleration, ranging from curriculum compacting (which reduces the amount of time students spend on material) to subject matter acceleration (going to a higher-grade level for one class) to high school course options like AP or concurrent college credit (Davidson Institute, 2025; Southern et al., 1993). In some cases, acceleration means *content* acceleration, which brings more complex material to the student at his or her current grade level. In other cases, acceleration means *student* acceleration, which brings the student to the material by shifting placement. Reviews of the research on different forms of acceleration have been conducted across several decades and consistently report the positive effects of acceleration on talented student achievement (Gallagher, 1996; Kulik & Kulik, 1984), including AP classes (Bleske-Rechek et al., 2004). Multiple studies also report participant satisfaction with acceleration and benign effects on social and psychological development (Davidson Institute, 2025; Renzulli & Reis, 2021).

Access to Trained Teachers

Research and teacher reports indicate general classroom teachers make very few, if any, modifications for academically talented learners (Harwin, 2019), even though talented students have mastered 40 to 50% of the elementary curriculum before the school year begins. In contrast, teachers who receive appropriate training are more likely to provide classroom instruction that meets the needs of talented learners. Students report differences among teachers who have had such training, and independent observers in the classroom document the benefit of this training as well (Hansen & Feldhusen, 1994). Curriculum and instructional adaptations require the support of a specially trained coach at the building level, which could be embedded in the instructional coaches recommended (Element 7). Overall, learning outcomes for high ability learners are increased when they have access to programs whose staff have specialized training

in working with high ability learners (Delcourt et al., 1994), which could be accomplished with the PD resources recommended (Element 16).

Impact of Gifted Programs

Overall, research on gifted programs indicates the effects on student achievement vary by the strategy of the intervention (see Plucker & Callahan, 2021). Enriched classes for gifted and talented students produce effect sizes of about +0.40 and accelerated classes for gifted and talented students produce somewhat larger effectives sizes of +0.90 (Gallagher, 1996; Kulik & Kulik, 1984; Kulik & Kulik, 1992). A 2007 review of the research on gifted and talented education reached similar conclusions, finding that in addition to improving achievement among children identified as gifted, many gifted and talented programs also benefit non-gifted and talented students as well as students with disabilities (Field, 2007). A 2016 meta-analysis of 100 years of research on the effects of ability grouping and acceleration on the academic achievement of K-12 students reached similar conclusions about the positive impacts on gifted as well as non-gifted students (Steenbergen-Hu et al., 2016). Most of these studies focused on specific gifted and talented programs.

Redding and Grissom (2021) identified several more recent studies using large scale databases, including the Early Child Longitudinal Study, that find mixed if any positive impacts of gifted and talented services on student performance. The "issue" with these studies is that they rarely analyze specific gifted and talented programs but use a variable in the data set that represents whether or not a student has participated in a gifted and talented program. The problem is that there is no definition of gifted and talented programs, nor indicators of what participation means, which could be from a few hours of enrichment a month to acceleration in a content area over an entire year. Thus, we view these kinds of studies with some skepticism, as nearly all studies of specific gifted and talented interventions find significant and positive impacts.

Practice Implications

At the elementary and middle school levels, our understanding of the research on best practices is 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 gifted students skip grades to be exposed to accelerated instruction. Research shows neither of these practices systemically produces social adjustment problems. Many gifted students get bored and sometimes restless in classrooms that do not have accelerated instruction. The primary approach to serve gifted students in high schools is to enroll them in advanced courses, such as AP and the IB, to participate in dual enrollment in postsecondary institutions, or to have them take courses through distance learning mechanisms (see also National Center for Research on Gifted Education at https://ncrge.uconn.edu and Davidson Institute at www.davidsongifted.org). All of these strategies have little or no cost, except for scheduling and training of teachers, resources for which are provided by PD (Element 16).

Over the past two decades, we confirmed our understanding of best practices for the gifted and talented *defined as high achievers* with the directors of three of the gifted and talented research

centers in the United States: Dr. Elissa Brown, Director of the Hunter College Gifted Institute and previously the Director of the Center for Gifted Education, College of William & Mary; Dr. Joseph Renzulli, The National Research Center on the Gifted and Talented (NRC/GT) at the University of Connecticut; and Dr. Ann Robinson, Director of the Center for Gifted Education at the University of Arkansas at Little Rock.

Future-Ed has outlined an approach to gifted and talented that can be adopted with all the resources provided by the EB Model (Tyre, 2024). Some of the programmatic approaches require extended day and summer school programming, resources provided by the EB Model. Tyre's report outlines three very different approaches to providing programs for the gifted, all of which can be implemented with EB Model resources.

A Broader Approach to Giftedness

To broaden gifted and talented education practices, however, the University of Connecticut's Center on the Gifted and Talented developed an internet-based platform, Renzulli Learning, which provides a wide range of programs and services for gifted and talented students. In 2005, Renzulli stated that such an approach was undoubtedly the future for the very creative student. Field (2007) found that after 16 weeks, students given access to an internet-based program, such as Renzulli Learning to read, research, investigate, and produce materials, significantly improved their overall achievement in reading comprehension, reading fluency and social studies.

Renzulli (2019) argues that underrepresentation of low income, minority, ELL and students with disabilities in gifted and talented programs begins at the word and definition of "gifted," which usually means identifying very high achieving students. Renzulli argues that many high performing students are different from students who have more creative and productive giftedness, but the latter have the kind of giftedness and special skills and attitudes that are needed for innovation in the evolving global economy (e.g., the types of entrepreneurial skills associated with Bill Gates, Steve Jobs and Jensen Huang, among others).

Renzulli (2019) and Renzulli and Reis (2021) describe a different kind of gifted assessment that addresses these characteristics of creativity and productivity. These characteristics include curiosity, interests, learning styles, expression styles, enjoyment and high engagement learning in particular areas. Equally important are co-cognitive skills such as collaboration, empathy, creativity, planning, self-regulation, and other executive functions skills. Renzulli Learning is a program that responds to these wide varieties of giftedness.

And its cost is modest. We contacted the leaders of Renzulli Learning to understand its costs. Our understanding is that $25 per student would cover the cost of accessing the Renzulli Learning program. Renzulli also offers PD, and its on-line PD offerings have become popular. If a figure of $25 per pupil were included in the EB Model, all districts would be able to allow interested gifted, talented, and otherwise creative students to sign up for this program with teachers being able to access some of its PD. [22]

[22] https://renzullilearning.com/

The EB Model provides $25 per pupil for Gifted and Talented programs as well as endorses acceleration as a cost-effective way to address the needs of gifted and talented students.

16. Intensive Professional Development (PD)

Intensive PD includes a number of important components. This section describes the specific dollar resource recommendations the EB Model provides for PD. In addition to the resources listed here, PD includes the instructional coaches described in Element 7 and the collaborative planning time provided by the provisions for elective or specialist teachers in Element 4. This enables teachers to engage in a range of collaborative activities focused on implementing standards-based curriculum programs and the instructional practices needed for implementation success. Research shows PD that includes teacher collaboration (Weddle, 2022) leads to improved teacher knowledge and instructional effectiveness. Those staff positions are critical to an adequate PD program along with the resources identified in this section.

Over time PD has addressed the key curriculum and instructional issues facing education. Historically that has meant a focus on the core subjects of mathematics, science, reading/English/language arts and history, characteristic of the 1990s and early 2000s. Given the wide number of languages spoken by students, PD should have included pedagogy linked to "sheltered English" equipping teachers to simultaneously teach the English language along with curriculum content for ELL students. From 2020 onward, PD in Wyoming needed to equip teachers with the content and pedagogical skills to address computational learning and algorithmic thinking at all grade levels and to teach computer science as an elective course in middle and high schools, topics added to the state's curriculum standards Today, there is intense need to provide professional development in the wide array of ways Artificial Intelligence (AI) is impacting the schooling process. Since robust PD resources have been included in the EB and Wyoming Funding Models for over 20 years, districts should be able to continue training in the traditional core subjects and also address evolving issues such as algorithmic thinking and AI.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 10 days of student free time for training embedded in salary levels. Provide $132.72 per ADM for trainers, inflated annually by the EB ECA for supplies.	Provide 10 days of student free time for training embedded in salary levels. Provide $191.43 per ADM for trainers, inflated annually by the statutory ECA for supplies.	Provide 10 days of student free time for training embedded in salary levels. Increase the dollar amount to $191.43 per ADM inflated by the ECA annually.

Summary and Recommendation*:* This element includes the dollar resource recommendations the EB Model provides for PD. Systemic deployment of effective instruction for a high-quality curriculum program is the key aspect of an education system that improves student learning. High quality, ongoing PD is the prime strategy for producing these systemic effective instructional practices.

In addition to the resources listed here, PD includes the instructional coaches described in Element 7 and the collaborative planning time provided by the provisions for elective or specialist teachers in Element 4. The combined resources enable teachers to engage in a range of collaborative activities focused on implementing standards-based curriculum programs and the instructional practices needed for effective implementation. Research shows PD that includes teacher collaboration and instructional coaching leads to improved teacher knowledge, instructional effectiveness and increased student achievement.

In addition to instructional coaches and time for teacher collaborative work, the EB Model provides 10 pupil free days for PD (embedded in the annual teacher salary) and $191.43 per ADM for training and supplies.

Evidence and Recommendation

Better and more systemic deployment of effective instruction, and related state and local policy supports, are key aspects of an education system that improves student learning (Kirst, 2024; Masters, 2023; Odden, 2011b; Raudenbusch, 2009; Rowan et al., 2002; Sanders & Rivers, 1996). To effectively implement today's more rigorous curriculum standards, all school faculty members need continuous PD. Improving curriculum and teacher effectiveness through high quality PD is arguably one of the most important strategies for enabling students to perform to high standards (Short & Hirsh, 2022).

Thus, all the instructional resources included in the EB Model over time need to be transformed into high quality instruction to increase student learning (Chetty et al., 2014; Cohen et al., 2002; Hill & Papay, 2022; Short & Hirsh, 2022). Effective PD is the primary way those resources get so transformed. Further, though the key focus of PD is better instruction in the core subjects of mathematics, reading/language arts, writing, history, science, and world languages, the PD resources in the EB Model are adequate to address the instructional needs for gifted and talented, special education, sheltered-English for teaching ELL students, for embedding technology into the curriculum, and for elective teachers as well. Today, PD is needed to help teachers incorporate AI into the curriculum and ongoing instructional practices. In addition, all beginning teachers need intensive PD, first in classroom management, organization and student discipline, and then in instruction. The most effective way to "induct" and "mentor" new teachers is to have them work in functional collaborative teacher teams (Ingersoll et al., 2025).

There is substantial research on the key elements of effective PD and its costs (e.g., Cohen et al., 2021; Crow, 2011; Didion et al., 2020; Guskey, 2010; Joyce & Showers, 2002; Kraft et al., 2018; Lynch et al., 2019; Miles et al., 2004; Odden, 2011a; Short & Hirsh, 2022; Sims et al., 2025). Effective PD is defined as PD that produces change in teachers' classroom-based instructional practice that can be linked to improvements in student learning. The practices and principles researchers and PD organizations use to characterize "high quality" or "effective" PD draw upon a series of empirical research studies that linked program strategies to changes in teachers' instructional practice and subsequent increases in student achievement. Combined, these studies

and reports from Learning Forward, the national organization focused on PD (see Crow, 2011; see also Darling Hamond et al., 2017), identified six structural features of effective PD:[23]

1. The *form* of the activity – that is, whether the activity is organized as a study group, teacher network, mentoring collaborative, committee or curriculum development group. Research suggests effective PD should be school-based, job-embedded, focused on the curriculum taught and ongoing rather than a one-day workshop.

2. The *duration* of the activity, including the total number of contact hours participants are expected to spend in the activity, as well as the span of time over which the activity takes place. Research has shown the importance of continuous, ongoing, long-term PD that totals a substantial number of hours each year, at least 100 hours, and closer to 200 hours, when counting professional learning community (PLC) hours devoted to instructional practice.

3. The degree to which the activity emphasizes the collective participation of teachers from the same school, department, or grade level. Research suggests effective PD should be organized around groups of teachers from a school that over time includes the *entire faculty*.

4. The degree to which the activity has a content focus – that is, the degree to which the activity is focused on improving and deepening teachers' content knowledge as well as how students learn that content (i.e., pedagogical content knowledge). Research concludes teachers need to know the content they teach, the common student miscues or problems students typically have in learning the content, and effective instructional strategies linking the two. The content focus today should emphasize the content for Wyoming's curriculum standards, including algorithmic thinking and computer programming and embedding AI in the curriculum. Further, the most effective PD is structured around teachers' developing standards-based curriculum units that they all implement in their classrooms (Short & Hirsh, 2022).

5. The extent to which the activity offers opportunities for active learning, such as opportunities for teachers to become engaged in the meaningful analysis of teaching and learning for example, by scoring student work or developing, refining and implementing a standards-based curriculum unit. Research has shown PD is most effective when it includes opportunities for teachers to work directly on incorporating the new techniques into their instructional practice *with the help of instructional coache*s (see also Joyce & Showers, 2002).

6. The degree to which the activity promotes coherence in teachers' PD, by aligning PD to other key parts of the education system such as student content and performance standards, teacher evaluation, and the development of a professional community. Research supports tying PD to a comprehensive change process focused on improving student learning.

[23] The more theoretical framework of Sims et al., 2025 align with these six elements.

Form, duration, and active learning together imply that effective PD includes some initial learning (e.g., a two-week – 10 day – summer training institute), as well as considerable longer-term work in which teachers work to embed the new methodologies in their actual classroom practice, with instructional coaches providing support. Active learning implies some degree of collaborative work and coaching during regular school hours to help the teacher incorporate new strategies into his/her normal instructional practices. It should be clear that the longer the duration, the more time is required of teachers as well as trainers and coaches.

Content focus means effective PD focuses largely on subject matter knowledge, what is known about how students learn that subject, and the actual curriculum that is used to teach the content. Today this means a curriculum program to ensure students are college and career ready when they graduate from high school. Collective participation implies PD includes groups of and at some point, all teachers in a school, who then work together to implement the new strategies, engage in data-based decision making (Carlson et al., 2011) and build a professional community.

Coherence suggests PD is more effective when the signals from the policy environment (federal, state, district, and school) reinforce rather than contradict one another or send multiple, confusing messages. Coherence also implies PD opportunities should be given as part of implementing new curriculum and instructional approaches, today focusing on Wyoming's curriculum standards. There is little support in this research for the development of individually oriented PD plans; research implies a much more systemic approach.

Each of these six structural features has cost implications. Form, duration, collective participation, and active learning require various amounts of both teacher and trainer/coach/mentor time, during the regular school day and year and, depending on the specific strategies, outside of the regular day and year as well. This time costs money. Further, all PD strategies require some amount of administration, materials and supplies, and miscellaneous financial support for travel and fees. Both the above programmatic features and the specifics of their cost implications are helpful to comprehensively describe specific PD programs and their related resource needs.

In a 2016 review of the research on effective PD, Kennedy generally identified the same structural features of effective PD as outlined above. She also noted that when effective, the impact of a PD program is usually stronger in the year following the program and the impact can increase even after that [for examples, see Horn (2010), Allen et al. (2011, 2015), and Yoon et al. (2007)]. Her review included only programs lasting at least a year, whereas many less effective PD programs are much shorter in duration. The take-away, we believe, is that PD needs all the programmatic features identified above, should last at least a year long, and should include intensive coaching of individual teachers in their classrooms – resources for all of which are included in the EB Model.

We also refer readers to three documents that provide more detail on how to use the EB Model identified resources to design and implement all the elements of an effective teacher PD system (Hill & Papay, 2022; Short & Hirsh, 2022; Masters, 2023). These new documents provide more details about the design of an effective teacher learning system. The Short and Hirsh article identifies the professional learning processes needed to implement new and more rigorous

curriculum programs into the various phases of the "change process" that are needed to move teachers from what and how they are now teaching to the more rigorous curriculum programs and related instructional strategies needed to effectively implement them.

In support of these findings, we reference an important analysis of the kinds of PD that work for implementing STEM classes in schools, a national priority. Lynch et al. (2019) assessed results from 95 experimental and quasi-experimental studies of PreK-12 science, technology, engineering and mathematics PD and curriculum programs. They found an average effect size of 0.21 standard deviations on student performance when PD specifically:

- Helped teachers learn to use the new curriculum materials,
- Focused on improving teachers' content knowledge, pedagogical content knowledge and/or understanding of how students learn that content,
- Included summer workshops, and
- Included time during the school year for teacher groups to trouble shoot and discuss classroom implementation.

These findings provide specific support for several of the key elements of effective PD outlined above plus the need for teacher collaborative groups during the school day/year. Finally, the meta-analysis also found wide variation in PD program implementation and stressed that "fidelity" of implementation of all the elements of PD is key to having the program produce the desired impacts on teachers' instructional practice and then student achievement (see also Lynch et al., 2025).

From this research on the features of effective PD, the EB Model includes the following for a systemic, ongoing, comprehensive PD program:

- Ten days of student free time for training embedded in the salary level, and
- Funds for training and miscellaneous costs at the rate of $191.43 per student.

The resources for student free time and cost of training are in addition to instructional facilitators/coaches (Element 7) and collaborative work with teachers in their schools during planning and collaborative time periods (Element 4).

17. Instructional and Library Materials

Instructional materials include textbooks, supplemental materials for any textbook or curriculum program, workbooks, library materials and subscribed data bases, and the digital form of all printed materials. The EB Model provides such resources so districts can update all materials on a six-year rotating basis.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide $210 per ADM for elementary, middle and high schools.	Provide $291.89 per ADM.	Provide an amount for instructional and library materials equal to $300 per ADM. [$245 instructional materials, $35 library materials and subscriptions, $20 AI development.] Increase annually by the ECA.

Summary and Recommendation:

The need for up-to-date instructional and library materials is paramount for student-centered learning. Newer materials, whether digital or print, contain more accurate information and incorporate the most contemporary pedagogical approaches. Common standardized materials offer a structure, an order, and a progression in the teaching and learning process that allow teachers to pace instruction and work together as collaborative teams and as professional learning communities. Today, almost all publishers have created digital versions of their materials, and many require the purchase of the digital copy of the text as well as the paper-based book, and they also are creating AI applications.

The EB Model provides an amount for instructional materials and library materials equal to $300 per ADM, consisting of $245 for instructional materials, $35 for library materials and subscriptions, and $20 AI development, which also allows for a six-year adoption cycle. This amount should be increased annually by the ECA.

Analysis and Evidence

The need for up-to-date instructional and library materials is paramount for student-centered learning. Newer materials, whether digital or print, contain more accurate information and incorporate the most contemporary pedagogical approaches. Common standardized materials offer a structure, an order, and a progression in the teaching and learning process that allow teachers to pace instruction and work together as collaborative teams and as professional learning communities. Prior to the COVID pandemic, there was discussion regarding the benefits of digital versus printed textbooks; however, with lessons learned from forced remote learning, almost all publishers have created digital versions of their materials, and many require the purchase of the digital copy of the text as well as the paper-based book. Publishers are working diligently to add small mini-applications and AI to their digital offerings to distinguish them from their textbooks and to interactively scaffold and reinforce difficult subject-matter concepts. With recent AI advances, valuable student-centered, timely feedback has increased. In addition, many internet sites provide free digital resources to all. To ensure that materials are current, 20 states have instituted material adoption cycles to ensure that materials represent current knowledge. Wyoming, like 32 other states, leaves course material selection to the school districts

(Winnery et al., 2022; Wyoming Statute 21-2-304(a)(iii)). While Wyoming does not regiment textbook adoption choices, it does require that content and performance standards be reviewed on a regular cycle, once every nine years (Wyoming Statute 21-2-304(c)). Wyoming should leverage the standards review requirement to encourage districts to reassess their selected materials periodically, such as at least every six years, to ensure they are up-to-date and reflect the latest knowledge.

This analysis addresses two issues: instructional materials and library materials.

Instructional Materials

Access to standards-aligned instructional resources is critical for teachers and students. In 2024, under Wyoming Department of Education Chapter 10 Rules, Wyoming adopted content and performance standards for Math, Science, Computer Science, Physical Education, Health & Safety, and Fine & Performing Arts. Notwithstanding, standards do not delineate any particular teaching practice, curriculum, or assessment method. Wyoming should consider encouraging districts to review the corresponding content materials as these districts implement updated standards. Without state encouragement, decisions to acquire updated materials may be delayed by districts for extended periods, and both the EB and Wyoming Funding Models allow districts to refresh curriculum materials on a six-year basis.

Up-to-date textbooks and materials, whether digital or print, are expensive. The type and cost of instructional materials differ across elementary and secondary levels. Textbooks at the secondary level are more complex and thus more expensive. Elementary grades, on the other hand, use more workbooks, worksheets and other consumables. Both elementary and secondary levels require extensive pedagogical aides such as math manipulatives and science supplies that help teachers demonstrate or present concepts using different pedagogical approaches.

Textbook prices range widely. At the high school level, textbooks can cost from $100 to $250. Major textbook companies now offer electronic versions of their texts; however, contrary to popular belief, these versions are only marginally discounted, so are just as expensive, or more expensive, than their paper-based counterparts. Some digital versions are offered with time-bound contracts, much like library database subscriptions. The advantage offered by electronic versions is they can be continually updated.

Following the pandemic, all school districts in Wyoming provide one-to-one student computers. Moreover, the Court ruling in *Wyoming Education Association v. State of Wyoming* can be interpreted as expecting a one-to-one ratio for student computers. The EB Model presented in this report assumes a one-to-one ratio making it possible for school districts to rely less heavily on printed textbooks. For this to be successful, internet access for those who cannot afford it must also be provided and the costs thereof are estimated in this chapter.

Districts should focus on purchasing curriculum and instructional materials that will assist teachers to drive student-centered learning and achievement. Content standards require more reading from information texts across all curricular subject areas. This necessitates the purchase of additional materials that were not required prior to the implementation of more rigorous

curriculum standards. The EB Model provides $245 per student for instructional materials, which is an amount sufficient to allow school districts to use a six-year rotating content refresh by content area.

The EB Model recommendation is to create one unified support amount for instructional materials at all schools regardless of school level. Resources of $245 per student per year for instructional materials will support the purchase of instructional materials that are best organized to reflect Wyoming teaching strategies. This funding level will also allow the purchase of digital access to some textbooks if districts desire.

A Comment on Curriculum

It goes without saying that textbook selection substantially determines the specific curriculum a school will teach. And the fact is that some curriculum and instructional programs are more effective than others. Though a complete review of curriculum programs is beyond the scope of this report, which is focused on identifying adequate resources to purchase needed curriculum materials, it is important that districts and schools use the funds for instructional materials to select textbooks, curriculum, and instructional programs that research finds effective. The What Works Clearinghouse (https://ies.ed.gov/ncee/wwc/) provides evidence-based guidance for how various subjects can be taught at different school levels, as well as identifies research-based effective curriculum programs.

Further, having a content-rich curriculum across all core areas is increasingly seen as a key to higher levels of student performance (Davidson, 2024). Put differently, a school's curriculum program is not a neutral element of schools; it is a critical element that plays a significant role in what students will learn. Research on the impact of the Core-Knowledge comprehensive school model documents the positive impact of a broadly-based, knowledge-rich curriculum program (Grissmer et al., 2023).

Reading is a special issue. There is nearly universal agreement that reading is key to learning in *all* subject areas. But despite broad agreement on the recommendations of the 2000 National Reading Panel (National Institute of Child Health and Human Development, 2000) that provide the outlines for a science-based reading program, studies and surveys over the years have found that science-based reading practices are not evident in the bulk of the nation's classrooms. For example, in a study of whether teachers were implementing science-based reading practices in Tier 1 instruction, Kretlow and Helf (2013) found that most teachers were not using those practices. In a survey conducted by Education Week's Research Center, Sawchuk (2019) also found that most teachers were not using science-based reading practices. Sawchuk further found that the non-science-based practices teachers used were often deployed under the banner of "balanced literacy" *an approach often* recommended by mentors, coaches, professional groups and teacher training institutions.[24] Lucy Calkins, one of the country's leading reading experts who supported balanced literacy, has recently admitted that such an approach to reading needs to be changed and that successful reading programs must systematically include phonics and

[24] Balanced Literacy has become the modern way for many former proponents of the "whole language" approach to acknowledge the importance of phonics and phonemic awareness, but too often "balanced literacy" in practice provides only a cursory and unsystematic use of instruction in phonemic awareness and phonics.

phonemic awareness, particularly at the early grades (Schwartz, 2020). Moreover, the need for schools to use a science-based approach to reading has been discussed in several articles in *Education Week*, in the *New York Times*, *Educational Leadership* (2020), and even in the international journal *The Economist* (2021).

Goldstein (2020) also noted the resurgence of interest in improving reading scores via the "science of reading." She argued that lagging reading achievement on the National Assessment of Education Progress (NAEP) – only a third of America's children are proficient in reading – and new attention to the science of reading has led to a resurgence of attention to phonics and phonemic awareness. She further argued:

> The "science of reading" stands in contrast to the "balanced literacy" theory that many teachers are exposed to in schools of education. That theory holds that students can learn to read through exposure to a wide range of books that appeal to them, without too much emphasis on technically complex texts or sounding out words.
>
> Eye-tracking studies and brain scans now show that the opposite is true, according to many scientists. Learning to read, they say, is the work of deliberately practicing how to quickly connect the letters on the page to the sounds we hear each day.
>
> The evidence "is about as close to conclusive as research on complex human behavior can get," writes Mark Seidenberg, a cognitive neuroscientist and reading expert at the University of Wisconsin, Madison….
>
> Phonics boosters say they now know more about what works, and that phonics alone isn't the answer. Alongside bigger doses of sounding out, they want struggling students to grapple with more advanced books, so they won't get stuck in a cycle of low expectations and boredom. Some schools are devoting more time to social studies and science, subjects that help build vocabulary and knowledge in ways that can make students stronger readers. (Goldstein, 2020)

Goldstein (2020) also cited NAEP results that showed that over several years before the pandemic only two states had boosted third grade reading scores on recent NAEP assessments – Mississippi and Washington – and both states had adopted a statewide approach to systemically teaching phonics and phonemic awareness as well as the other elements of the science of reading.

Given the importance of ensuring that all students read proficiently by the third grade, which is also the goal of Wyoming's K-3 Literacy Initiative, it is important to know not only the core elements of what comprises a science-based reading program, but also some specific classroom organizational and teacher instructional issues needed to implement the program. *Educational Leadership* (2020), a professional journal of the Association for Supervision and Curriculum Development, published an issue that summarized this science, making this knowledge easily accessed by all educators. In that issue, Benjamin Riley (2020, p. 17-19) provided an excellent summary of the science of reading:

> There are certain things we learn "naturally," that is, as the result of millions of years of human evolution. The most obvious example is understanding spoken language. Absent cognitive or hearing impairment, virtually all human children will learn what words mean simply by being around and listening to other humans. Reading is another matter entirely. …it is not accurate to call reading, and the process by which we learn to read, "natural." It's a modern human innovation, arguably the most powerful in our species' history.
>
> Virtually all children can learn to read through formal education (again, absent some cognitive or physical impairment). What's more, the process by which humans learn to read has been well researched, to the point that we can describe our knowledge of this process as a science. Here are just a few reading-science principles that aren't in dispute among English-language literacy experts:
>
> - Children can learn to understand how written letters relate to sounds–to decode text–through explicit phonics instruction (Castles et al., 2018). They should receive explicit instruction that teaches the sounds that letters and combinations of letters represent, and the relationships of spelling patterns and pronunciations. Teachers need to be explicit in such instruction; this isn't the place for being a "guide on the side."
>
> - The key factor in helping young children transition from decoding text to becoming fluent readers is lots of reading practice with varied texts (Stanovich & West, 1989). Teachers should make books and other texts readily available in different parts of the classroom. But "independent reading" shouldn't supplant direct reading instruction.
> - Explicit strategies designed to improve reading comprehension cannot, on their own, compensate for lack of vocabulary or content knowledge on a particular subject. It's fine for teachers to teach a few comprehension strategies (like making predictions) to students, but they shouldn't overdo it.

Schmoker (2019) caution against one classroom organizational strategy that dominates elementary reading instruction: multiple, reading level-based student groups. Even though literacy instruction usually consumes a large portion of the instructional day for elementary students, Schmoker finds that literacy instruction rarely includes the most essential elements of science-based reading instruction – whole class direct instruction, even when educators agree with those practices! The culprit: multiple ability level reading groups rather than whole class, direct instruction. Schmoker, who is one of the country's top PD consultants, says,

> The most successful K-3 teachers … use small groups sparingly! That is because their *whole class instruction* consistently incorporates the proven effective, but rarely used, elements of successful teaching. They master simple techniques for ensuring that all students are attentive, and conduct frequent, ongoing assessments of the class's progress through the lesson and reteach accordingly.

Relatedly, in a 2018 meta-analysis of a half century's research on the impact of whole class "direct instruction," Stockard et al. (2018) found significant positive effects on: 1) reading, language, spelling, mathematics, and other academic subjects; 2) ability measures; and 3)

affective outcomes. The results showed that such impacts were maintained over time *and* were even greater when students had more exposure to such direct instructional programs.

To spur the use of science-based reading programs since the pandemic, states are creating statewide initiatives to help teachers, schools and districts adopt and implement science-based reading programs (Olson, 2023). Mississippi, Tennessee, North Carolina, and Arkansas have been leading these state efforts. These state programs include curriculum materials, summer training institutes, ongoing PD with instructional coaches, and extra-help strategies to help struggling students perform to grade level standards. Massachusetts, New York and Maryland are the most recent states to launch science-based reading initiatives (Schwartz, 2024a). Moreover, teachers and their unions have concluded that it is critically important for districts and schools to adopt elementary reading materials that allow teachers to implement a *science-based* reading program (see for example, Moats, 2020).

Similar pedagogical advice applies to tutoring. For example, Torgeson (2004) argues that structured reading programs, which specifically, systematically, and directly address phonemic awareness and phonics, have been shown by multiple researchers to be more effective than other approaches, especially for children from lower income and ELL backgrounds. Pedagogy also matters for mathematics programs and instructional practices. Many effective schools have used textbooks that integrate problem solving with concept instruction together with an emphasis on arithmetic basics. Further, a 2015 study concludes that early elementary children with mathematics difficulties are best served by teachers who provide substantial direct mathematical instruction and routine practice and drill on math facts (Morgan et al., 2015). The fact is that some instructional materials are more effective with some or all students than others, and districts and schools should select specific programs only after careful analysis and review to ensure that funds for instructional materials are spent wisely and address the specific needs of their students.

Library Materials

The NCES reported the average national expenditure for public school library materials in 2011-2012 was $16 per pupil (Snyder et al., 2016). Over 90% of the $16 was spent on book titles and the remainder on other resources such as subscription databases. The use of electronic databases has declined in recent years as many instructional resources are offered free to the public on the Internet (e.g. online encyclopedias, newspaper subscriptions, search databases).

Some electronic subscriptions still require membership, such as archived newspapers, or pay research databases. Electronic database services vary in price and scope and are usually charged to school districts on an annual per student basis. In addition, the library is usually the hub for textbook distribution which is facilitated in larger schools with a textbook management system. Depending on the content of these databases and tools, costs can range from $3-7 per database per year per student.

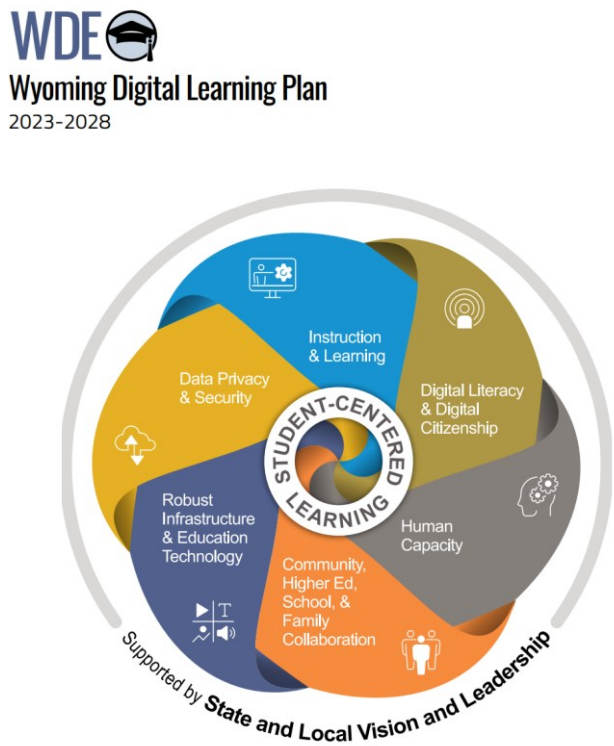
Inflating the above cost estimates to meet the needs of school libraries, we recommend funding of $35 per student to pay for library texts and electronic services.

Adding this $35 per student for library materials to the $245 per student amount for instructional materials brings the 2025 EB Model recommendation to $280 per student for instructional and library materials.

Artificial Intelligence

Artificial Intelligence (AI) creates one of the most significant innovations in student-centered learning, and conversely, one of the biggest dangers. Teachers and students can summarize research and create reports and presentations that would have previously required hours of work and painstaking analysis. States and districts across the country are working to catch up with the rate of change to positively impact how students ultimately use AI to prepare them for higher education or the workforce. This is both a policy and an instructional issue that must be addressed now by educators. The Wyoming Digital Learning Plan provides a basis for digital learning and citizenship that will assist educators and students prepare for effective AI use.

Figure 3.1 Wyoming Digital Learning Plan, Wyoming Department of Education (2023)



The Wyoming Digital Learning Plan created an AI toolkit that suggests policies, processes, procedures, and PD to facilitate the safe and positive use of AI in Wyoming school districts. Currently, there are many artificial intelligence products offered free to the public, and therefore to schools. Free versions commonly have less advanced tools or are the earlier-released versions of the product. In most cases, the latest versions of many products are subscription-based.

When queried, almost all AI models use data input to help their systems "learn." Some companies, such as Open AI (ChatGPT), realize the sensitivity of personally identifiable data

residing in school systems and the company is working to "containerize" this data, protecting it from being used for database learning.

The EB Model recommends funding $20 per student per year for the next five years for the development of policies, processes, procedures, and/or PD to help create safe and student-centered methodologies for the use of AI in classroom instruction and student academic work. After five years, these dollars should be reassessed, based on the evolution of AI use both in and out of the classroom.

The EB Model provides an amount for instructional materials and library materials equal to $300 per ADM ($245 instructional materials, $35 library materials and subscriptions, $20 AI development).

18. Short Cycle/Formative Assessments

All states, including Wyoming, administer summative assessments in the spring of each school year (Winnery et al., 2020). These assessments indicate the level of student performance in select core subjects, usually English language arts, mathematics, and science. Summative assessments – necessary tools to help schools make high-level decisions about the school improvement process – exist alongside a series of other types of assessment data that serve other, more targeted, ongoing instructional improvement purposes. The Wyoming Test of Proficiency and Progress (WY-TOPP) system, which includes summative and interim and modular assessments, was designed to provide districts, schools and teachers with the full complement of assessment data needed to engage in data-based decision-making to foster continuous improvement in student performance.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
$25 per ADM and not subject to an ECA.	Not funded through the Model, assessment costs fully paid by the state through the WY-TOPP portfolio of assessments.	$25 per ADM and not subject to an ECA.

Summary and Recommendation: Data-based decision making has become a core and important element in school reform and improvement over the past two decades. Research on collaborative teacher teams engaged in data-based decision making has documented significant, positive impacts on student learning. To engage in data-based decision making, schools typically use four types of assessment data:1) state summative assessments such as the WY-TOPP assessments, 2) benchmark assessments, 3) short cycle or interim assessments, and 4) formative assessments.

Schools often start their improvement processes by analyzing the summative assessment data. Analyses of the state accountability (end-of-the-year summative assessments) tests provide a good beginning basis for schools to redesign their overall curriculum and instructional program. But, to plan and implement detailed instructional change efforts and monitor progress toward higher levels of performance, schools need more detailed

assessment data, including benchmark and short cycle/interim assessments. The EB Model provides $25 per ADM to give teachers access to digital, computer adaptive interim assessments from several companies, including Renaissance Learning Star, NEWA Map and DIBLES from Amplify.

Evidence and Recommendation

Data-based decision making has become a prime element in school reform and improvement over the past two decades. It began with the seminal work of Black and William (1998) on how teachers can use ongoing data on student performance to frame and reform instructional practice, and continued with professional learning communities using student data to improve teaching and learning (DuFour, 2015; DuFour et al., 2010; Hamilton et al., 2009; Steiny, 2009). The objective is to have teachers use student performance data to inform and improve their instructional practices, identify students who need interventions, and progress monitor the effectiveness of those interventions, with the goal of increasing overall student performance (Boudett et al., 2005). As a result, data-based decision making has become a central element of schools moving the student achievement needle (Kirst, 2024; Odden, 2009, 2012).

Research on data-based decision making has documented significant, positive impacts on student learning. For example, a 2011 RCT of such efforts showed that engaging in data-based decision making using interim assessment data improved student achievement in both mathematics and reading (Carlson et al., 2011).

Several researchers -- Datnow and Park (2015); Hamilton et al. (2009); the late Richard DuFour (2015), one of the country's experts on teacher collaborative work using student data; and the Carnegie Corporation, Short and Hirsh (2022) – have summarized the research on, and structures of, effective data-based decision-making mechanisms. All rely on access to comprehensive interim and short-cycle assessment data.

To engage in data-based decision making, teachers typically need and use four types of assessment data:

- State summative assessments,
- Benchmark assessments,
- Interim or short cycle assessments, and
- Formative assessments.

State *summative assessments* indicate the performance level of students at the end of each year. At the beginning of the next school year, teachers start their improvement processes by analyzing these summative assessment data. Such analyses indicate the overall achievement level of students at the end of the previous year – where achievement was strong and where achievement was below expectations – and provide general guidance to the teaching and achievement challenges going forward. But, to plan and implement week by week instructional changes and monitor progress toward higher levels of performance, schools need additional assessment data.

One of those additional assessment tools is generally called a "*benchmark" assessment*. Benchmark assessments are closely aligned with the state's summative testing system and are usually administered in the fall and winter as well as the spring of each year. Fall assessments give more detail than the summative assessments on where students start the year in terms of performance in state content areas. Winter assessment results show progress half-way through the year toward proficiency, which then is measured by the end-of-the-year summative assessment. Benchmark assessments give feedback on each semester of instruction and are often used to determine which students need interventions or extra help.

A third assessment tool providing information on student performance is referred to as "*short cycle" or "interim" assessments*. These interim assessments are often computer adaptive tests that are given in shorter cycles (every three to five weeks), provide immediate feedback to teachers and teacher teams, and often include suggestions for instructional improvement. Short-cycle assessments provide the bulk of the data teachers use when engaging in collaborative, data-based decision making. Short-cycle assessments generally include screeners, or micro-diagnostic tools, that identify student knowledge with respect to specific reading and math skills. Short-cycle interim assessments are also frequently linked to a "learning progression" of specific content areas, with test results providing teachers with micro-information on how to lesson plan for specific curriculum units and thus enable teachers to deliver instruction specifically tailored to the exact learning status of the students in their individual classrooms. These assessments are used to show whether each curriculum unit was successful in producing student achievement, as well as to progress monitor the effectiveness of interventions for students, including those special education students with IEPs.

A fourth assessment tool, called a "*formative" assessment*, is administered over shorter time periods, usually several times during the teaching of a curriculum unit – sometimes daily. Often, teachers themselves create formative assessments. Used in addition to the previous assessment tools, formative assessments provide teachers with information to help identify additional student learning needs so teachers can improve their instruction. All of these additional assessment tools are used by schools that are successful in moving the student achievement needle.

Examples of "short-cycle" or "interim" assessments include STAR Enterprise from Renaissance Learning (www.renaissance.com), an online, computer adaptive system that provides data in reading/ literacy and mathematics for grades preK-12. Many Reading First schools and many schools we have studied (Odden & Archibald, 2009; Odden, 2009) use the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessments (http://dibels.uoregon.edu). The digital version of DIBELS is now available from Amplify at amplify.com. Fast Bridge is a third example of a short-cycle assessment. The NWEA MAP program, used by numerous states and districts across the country as a benchmark assessment, has been expanded to provide short-cycle assessment data. These examples include screeners for both reading and mathematics. The Galileo Assessment system as well as the Diagnostic Reading Assessment (DRA) are further examples of interim assessments. Several of these possibilities have aligned their assessments to the Wyoming Topp student testing program [see for example, Renaissance Learning (2025) and NWEA-MAP at https://www.nwea.org/state-solutions/wyoming/].

The costs of these assessments are modest and have changed very little over time. The EB Model provides $25 per pupil for such assessment capabilities. These resources enable teachers to obtain interim assessment data for PLCs, screeners, progress monitoring, and/or overall instructional improvement. This figure also allows for some vendor provided PD.

In 2020, Wyoming was in the process of expanding its WY-TOPP assessment system to include short cycle assessments. But teachers in many school districts still use and feel they need some form of external short cycle assessments. Thus, the EB Model continues to recommend $25 per ADM to provide teachers access to interim assessments from a digital platform.

19. Technology and Equipment

States, districts, schools and parents expect students to use technology appropriately while in school and to be technologically proficient when they graduate (Maxwell et al., 2021). Infusing technology into all aspects of the school setting provides greater opportunities for student-centered, individualized learning. Extending access to digital resources, applications, and artificial intelligence permits students to reinforce concepts, gather information, and discover solutions through project-based learning. When students have access to technology outside of the classroom, classroom time can be utilized for interactive exercises and structured activities (Lag & Saele, 2019; Odden, 2012). Research shows technology engages students and can be effective in schools with high concentrations of lower income and minority students (U.S. Department of Education, 2017; Whitmire, 2014).

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide an amount equal to $250 per ADM not subject to an ECA adjustment in future years.	Provide an amount equal to $250 per ADM not subject to an ECA adjustment in future years.	$450 per ADM, subject to an ECA in future years.

> **Summary and Recommendation**: Since the COVID pandemic, nearly all school districts in the country and Wyoming have adopted one-to-one student-to-computer programs in their schools. Research shows that appropriate use of these technologies can boost student learning and enhance student engagement in academics. The EB Model recommendation of $450 per ADM annually for technology and equipment provides adequate funds to create and maintain a robust student-centered school technology program that achieves one-to-one computing.

Analysis and Evidence

One-to-one computing, meaning each student is issued a device to use at school and home, has been implemented successfully in districts across the country. Since 2020, one-to-one programs have expanded dramatically, accelerated in large part by the pandemic. By 2022, nearly 90% of middle and high school classrooms in the United States reported one-to-one device coverage (COSN, as cited in Anderson, 2022).

One-to-one computing creates a student-centered learning environment in which virtual classroom portals let students and parents track student assignments and achievement from anywhere. Every student can access electronic curriculum and work individually within their classroom or at home. The home becomes an extension of the classroom for all students. Teachers know they can assign work that requires digital resources and learning outside of the classroom, allowing for high-level interaction and learning in the classroom and fostering student academic engagement and collaboration during out-of-school hours, including the frequency with which students practice writing and communication in written and other forms.

The more access students have to computer devices, the more accustomed and proficient they become. With computers being used for high-stakes testing, it is essential that students can comfortably use computers to demonstrate their knowledge. If students lack sufficient practice with computers in a testing environment, technology can become a barrier to successfully assessing and reporting student mastery and achievement (Zhang et al., 2016; Baek et al., 2015). Mastering computer concepts, including the use software used in the workplace, supports a student's transition to either college or career, providing them "professional skills" they can readily use to obtain a position in their field of choice (Perna, 2018).

Studies emphasize that device access alone is insufficient for improving learning outcomes. A case study published in *Education Week* reported that districts discovered students lacked baseline skills for leveraging devices effectively, even after years of prior exposure to technology (Herold, 2022). As a result, some districts introduced digital citizenship curricula covering device care, ethical use, and foundational digital skills. This suggests that structured digital literacy instruction for students is vital to unlocking improvements in student achievement.

The argument for one-to-one computing has evolved over the years. In the first decade of the 2000s, advocates of one-to-one computing cited various potential benefits to technology access, including: improved student achievement (especially in writing skills), increased student engagement and collaboration, better implementation of project-based learning, an expansion of learning beyond the classroom, and instant access to information. Opponents claimed it was difficult to isolate technology as a contributing factor to these benefits. Other drawbacks cited included: cost, the need for increased student supervision, and the necessity to provide additional PD to teachers and other district staff (Goodwin, 2011; Jackson & Bruegmann, 2009; Sauers & Mcleod, 2012).

Over the last 10 to 15 years, many of the costs associated with one-to-one programs have changed and the number of resources available on the internet has grown. When applications were only computer and/or local server-based, initial computer "images" were more complex and required constant version updating and license control. Districts and schools determined the computing power necessary by which applications would be run on those machines. Now, with cloud-based computing, resources and computing power exist in the cloud, allowing local devices to simply act as a "window" to the cloud.

Despite the increase over the years in the number of digital resources and applications available and the easier access to these resources via the cloud environment, research results regarding increased student achievement remain inconsistent, but promising.

A 2023 study of Norway's national one-to-one initiative found that although nearly all students had tablets, the pedagogical benefits remained inconsistent. The authors concluded that without clear governance structures and the use of digital instructional frameworks, the financial and instructional investments might not translate into sustained learning outcomes (Skullerud & Johannesen, 2023). Strong governance, including transparent policies and long-term planning, is therefore necessary to maximize returns.

One meta-analysis of studies of learning in a one-to-one environment found effect sizes of 0.16 for math, 0.25 for science and 0.12 for reading (Zheng et al., 2016). In contrast, Hull and Dutch (2019) studied one district and found that the results from converting to a one-to-one program were mostly statistically insignificant in reading, though math scores improved by 0.13 standard deviations.

Nickow et al. (2020) reviewed 126 studies of the use of technology in schools. The review found mixed effects, and great variability in programs and impacts. The study also found that computer-based reading programs tended to have modest effects, while some adaptive math programs had significant and larger effects.

Oreopoulos et al. (2024) expanded on how to best use computers in an online situation. His study found that computer-assisted learning (CAL) was effective in improving academic achievement across a range of programs and settings. The most effective CAL programs begin with students watching instructional videos and working through exercises at their own pace. Effective programs then provide immediate feedback to students, letting them know when and why they have answered questions correctly. The impact of CAL programs on literacy and language art skills is mixed, though one program, ITSS (Intelligent Tutoring System for the Text Structure Strategy), had significant positive impacts on middle school student comprehension scores. The Khan Academy is another example of a computer assistive learning program that is more commonly known and used by K-12 students internationally.

In addition to student achievement, it is important to have the parent community understand the purpose of one-to-one computing and the benefits it can provide. Parental perceptions of one-to-one initiatives may decline if clear benefits do not materialize. In one longitudinal study, parents' belief that laptops improved their child's learning dropped from 60% to 41% within a few years of program implementation (Mifsud, 2021). Continuous communication with families and transparent reporting on learning impacts are needed to maintain public support.

Although substantial funding and efforts are required to achieve successful one-to-one computing, more PD, resources for which are included in the EB Model, will be needed to ensure that increased student access to technology is effective and produces both short- and long-term impacts. The evidence confirms that one-to-one computing can help level the digital playing field and enhance learning if supported by robust training, governance, access, and sustainability planning.

Technology Costs

Technology carries both direct and indirect costs. This section addresses funding direct technology costs including computer hardware, networking equipment, management software, repairs, and other school-based devices. Indirect costs such as PD, curriculum redesign, and staff time are covered in other EB elements.

Currently, a large percentage of school computers being used were purchased with one-time funds during the pandemic. These devices are nearing end-of-life, leaving schools financially strained to maintain one-to-one computing.

Also using one-time funds, many districts upgraded networks and Wi-Fi coverage post-pandemic, building on earlier fiber optic installations. The EB recommendation assumes major capital expenses such as bringing high-speed internet to the school site and hard-wiring the school, have been, or will be paid for with other school capital construction funds.

In 2020, the EB recommendation for computers and related equipment was $250 per student to establish a three-to-one, student-to-computer ratio, with an estimate of $350 per student to obtain a one-to-one student-to-computer ratio, also known as one-to-one computing

The 2025 EB recommendation is $450 per student annually. This per student figure is sufficient for schools to purchase, upgrade, and maintain:

- Computers for students and staff
- Operating systems
- Productivity software
- Network equipment
- Student administration software
- Financial and work order software
- Electronic classroom and office equipment such as projectors, electronic whiteboards, and copiers.

The $450 annual per student recommendation is comprised of dollars in four general categories which should be considered flexible, allowing school leaders to move some dollars between categories based on their current needs:

- Computer hardware: $215
- Network equipment, printers and copiers: $65
- Operating systems, management, productivity and non-instructional software: $90
- Learning management software and additional classroom devices: $80.

The type of computer hardware needed for one-to-one computing has changed over the last two decades. Computing “power” used to be contained in the desktop or laptop computer but now, the need for high-end laptops and desktop computers has diminished. Especially over the last 10 years, both administrative and instructional programs have migrated to the cloud. With this migration, individual student computers have become ‘windows to the internet’ instead of high-end processing units. The $215 per student annual allotment for computer hardware pays for an

average $450 purchase price per computer with an assumed three-year lifespan. This also presupposes that the bulk of computers purchased for student use will be lower-cost chrome books or tablets, allowing computers with higher processing functions to be purchased for specific administrative tasks or for classroom subject areas such as video editing.

Chromebooks and tablet computers for the school enterprise now have an entry price point of about $350 per unit compared to the $700 to $900 cost for a basic laptop or desktop computer. Traditional Windows- or Apple-based platforms with more expensive features and expensive warranties can be purchased, but the per-student cost of providing one-to-one computing increases with each added feature or specification.

Even with limited specifications, lower-cost devices allow students to access cloud-based internet applications effectively. Running applications in the cloud makes "imaging" a device less complicated and allows for quicker replacement or repair. The purchase of these lower-cost devices provides an opportunity to create or maintain a one-to-one student-to-computer ratio on a three- or four-year replacement cycle. One drawback to lower-cost machines is that their functionality becomes limited if internet connectivity is lost. If internet access is unavailable, many applications and resources will also become unavailable, so internet access is critical.

For higher-end computers, the EB Model has recommended districts purchase 24-hour maintenance plans to eliminate the need for school or district staff to fix computers. For example, a school or district can purchase a maintenance agreement from some computer manufacturers that guarantee computer repair on the next business day. Many private sector companies that offer such service often take a new computer with them, leave it, and take the broken computer to fix. Alternatively, many schools have their school district provide this same function, especially for smaller issues that are easily fixed. It should be noted that when districts analyze the cost of warranty programs for Chromebooks or similar low-cost hardware, they may find it is more practical to simply replace broken machines than to pay for extended warranties.

Regarding networks, robust networks are important to a one-to-one program, especially if statewide testing occurs simultaneously in multiple classrooms. To successfully implement one-to-one programs, all campus areas must have Wi-Fi connectivity to ensure that every student can access sufficient bandwidth anytime and from any learning space. If students are dropped from the network or if there is slow access, the learning process is interrupted, students are distracted and testing results could be inaccurate.

Wi-Fi is now the cheapest and most effective way to spread adequate bandwidth to all learning spaces. Large scale implementation of wireless access points requires management software and hardware that controls and shifts bandwidth based on the ebb and flow of need during the school day. Once a network is "extended," meaning access points have been placed to provide sufficient bandwidth to all campus areas, the ongoing cost of this element will diminish. A portion of the $65 per student annual allowance provides sufficient dollars to upgrade or replace access points and other network elements if necessary.

The other remaining categories deal with software, both enterprise software for financial and student systems, and student software such as productivity applications or subscription-based

databases. Over the last years, developers have raised the cost of these software licenses which can either be computer-based or cloud-based. If licensing is per machine, then costs will increase as the number of computers rise. If the software is cloud-based, and driven by the number of user logins, then additional machines will not increase costs. One example is the Microsoft Office package. Purchasing a license to install Microsoft Office on a machine equates to the cost per machine; however, when using Microsoft 365 which is cloud based, the cost is per user, and the user can download that package on multiple machines. Almost all software packages today are cloud-based or have a cloud-based option. In addition, there are many free and low-cost instructional applications that are cloud based, only requiring internet access.

If networks have been extended and there are extra dollars in any of the four main categories of Technology and Equipment, these dollars can be spent to provide economically disadvantaged students with hot spots or other technologies to bring the Internet into their homes. A RCT highlighted in *First Monday* showed that providing students with internet access alone did not significantly improve educational outcomes; however, when laptops were provided in addition to connectivity, measurable academic benefits occurred (Neidhardt et al., 2021). This indicates that both hardware and connectivity must be considered. This EB Model element does not include the potential cost of providing internet access to a large portion of students who do not have access at home on an ongoing basis. Providing internet access for an individual at the current consumer rate over 10 months could cost approximately $300 per student annually unless leveraged through statewide procurement processes. During the pandemic, this cost was lowered to approximately $10 a month after the initial purchase of a “hot spot”. Not ensuring that students have broadband available at home can create an equity and “homework” gap (Consortium for School Networking, 2017).

Regarding enterprise software, most administrative and financial systems are chosen and maintained at the district level and are maintained in the cloud or on a server in the district office. In these cases, site dollars may be used to offset the school portion of the overall system costs. These systems are usually priced using a formula consisting of a base cost and the number of students served.

The 2025 EB Model recommends that the $450 now be subject to the ECA as current economic indicators point to possible cost increases spurred by tariffs or other inflationary factors. The decision for continued use of the ECA should be reevaluated in another five years after current conditions evolve.

Calculating the Number of One-to-One Computers/Devices

To translate the computer funding category above into practice, it is important to estimate how many devices a prototypical school requires. In one-to-one computing, each student is assigned a device that they take home and bring to school each day; however, additional computers are required for staff and supplemental computers for student use in other educational spaces. This increases the number of computers needed by 40 percent, turning a one-to-one student-to-computer ratio into a 1-to-1.4 student-to-computer ratio as outlined in Table 3.2.

Table 3.2 Number of Computers Per Prototypical School Needed in a One-to-One Student-to-Computer Ratio

Category	Elementary	Secondary
Student	330	315
Faculty and Staff	18	18
Office Staff	10	10
Library	30	30
Cart Computers for Classrooms	60	60
Other Classroom Computers	0	15
Total Computers	448	448
Student-to-Computer Ratio	1.36	1.42

For one-to-one computing, in a prototypical elementary school of 330 students, the school would need 330 devices for students and an additional 118 devices (~ 40%) for other purposes, e.g., 18 for faculty, 10 for the office and office staff, and 90 for other school learning areas (two mobile carts of 30, and 30 computers for the library). The prototypical secondary school would follow the same pattern with an extra 15 computers for small mini labs in some classrooms.

In one-to-one computing in which every student has their own computer, it may seem illogical that additional student computers remain necessary at the school site; however, there are many instances when these additional computers are needed to support the instructional program. For example, students may forget their devices at home, arrive at school with an uncharged computer, or run out of battery power before the school day ends. Extra computers on carts and in the library provide reliable backups in these situations. They also ensure access on days when students are not required to bring their devices, but classroom activities need technology.

Calculating the Cost of Computer Hardware for One-to-One Computing

The EB recommendation of $215 per student annually for computer hardware generates sufficient funds to cover the costs of the number of computers required in a prototypical school, based on a three-year replacement cycle.

As shown in Table 3.3, applying the $215 annual allocation over three years generates estimated revenues of $212,850 for an elementary school and $203,175 for a secondary school.

Table 3.3 Computer Hardware Dollars Generated by ADM Per Prototypical School Over Three Years

	Number of Students in Prototypical School	Dollars Per Student Allocated Annually	Total Dollars Per School Generated Annually	Total Dollars Per School Generated Over Three Years
	Column A	*Column B*	*Column C*	*Column D*
Prototypical Elementary School	330	$215	$70,950	$212,850
Prototypical Secondary School	315	215	$67,725	$203,175

This calculation multiplies the number of students (Column A) by the per-student allocation (Column B) to obtain an annual total (Column C), which is then multiplied by three years to reflect the replacement cycle (Column D).

Table 3.4 presents the corresponding three-year cost of computers: $201,600 for an elementary and secondary school.

When comparing funds generated with the total cost of computers, the funds generated modestly exceed the projected computer costs, demonstrating that the $215 per-student allocation is adequate to sustain a three-year replacement cycle.

Table 3.4 Total Cost of Computers Per Prototypical School Over the Three-Year Replacement Cycle

	Number of Computers Needed Over Three-Year Cycle	Average Cost of Computer	Total Computer Cost Per School Over Three-Year Cycle
Prototypical Elementary School	448	$450	$201,600
Prototypical Secondary School	448	$450	$201,600

Initiating One-to-One Computing

Currently, schools have many computers purchased with pandemic funding that are reaching the end of their useful life. If a school has not purchased newer computers over the last few years, the school may have to build back their one-to-one program over time. In such cases, schools can use older groups of computers/devices for mobile carts and provide new computers to students for their one-to-one use. Research from *Government Technology* notes that schools are adopting new strategies to sustain their programs, such as selecting more durable devices, reselling old devices, and even training students as IT support staff (Anderson, 2022).

When initiating one-to-one computing, schools typically begin by assigning computers at a specific grade level, for example kindergarten and third grade, and then allowing the students to use that same computer as they advance to the next grades. After a number of years deploying at these or other specific grade levels, all students will have an assigned computer.

When implementing a one-to-one program, some families will decline a device for their students because they have a home computer which exceeds the school specifications. In these cases, districts and schools should consider using these dollars to bolster other aspects of the technology plan. However, if all students are expected to bring a district-owned device to school most days, having some students who declined a device will create different challenges. Districts and schools will need to anticipate such questions and form governance policies that work best for their organization.

The EB recommendations provide long-term sustainability for one-to-one computing and encourage Wyoming districts to focus on computer lifecycle management and other techniques to maximize dollars invested in these technologies.

The EB Model provides an amount equal to $450 per ADM subject to an ECA to create a one-to-one computing environment The evidence since 2020 confirms that one-to-one computing can help level the digital playing field and enhance learning if supported by robust pedagogy, governance, access, and sustainability planning.

20. Career Technical Education Equipment/Materials

The EB Model provides extra CTE resources based on the number of CTE teachers. In addition to the additional teachers generated by the student weight of 20 percent for CTE courses as described under Element 5, the EB Model provides resources to purchase specialized equipment for each CTE teacher. See discussion above in Section 5.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide an amount equal to $10,000 per CTE teacher FTE for specialized equipment. Not subject to the ECA,	Provide an amount equal to $14,336 per CTE teacher FTE for specialized equipment as adjusted by the statutory supplies ECA. The amount is now resourced as a categorical grant. In addition, the state provides equipment funding for a minimum of two FTE CTE teachers for all high schools.	Align with Wyoming Funding Model amount, $14,336 per CTE teacher, and adjust by the ECA.

21. Extra Duty Funds/Student Activities

Elementary, middle and high schools typically provide an array of non-credit producing after-school programs, such as clubs, bands, sports, and other activities. Teachers supervising or coaching in these activities usually receive small stipends for these extra duties.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
For districts with 2,000 or more ADM provide $599 for each high school ADM, $322 for each middle school ADM and $25 for each elementary ADM. For districts with 500 ADM provide $1,497.50 per high school ADM, $805 per middle school ADM and $62.50 for every elementary ADM (2.5 times the number for a district with 2,000 or more ADM). Prorate the per ADM amount between 2,000 and 500 students. For districts with 150 or fewer ADM provide $1,797 per ADM for high school ADM, $996 per middle school ADM, and $75 per elementary school ADM (3.0 times the amount for a district with 2,000 or more ADM). Prorate the per ADM amounts between 500 and 150 students. Adjust these figures by an annual ECA.	For elementary grades, provide an amount equal to $36.17 per ADM. For middle and high schools, use inverse sliding scales based on ADM. Middle school funding levels range from $1,189.81 for 1 ADM and $307.41 per ADM for a school of 1,260 ADM. High school funding levels range from $3,067.10 for 1 ADM and $904.11 per ADM for a school of 1,260 ADM. Sixth grade elementary students funded using the elementary per ADM amount and ninth grade students included in the high school ADM for the schools they would attend.	For districts with 2,000 or more ADM provide $833 for each high school ADM, $447 for each middle school ADM and $35 for each elementary ADM. For districts with 500 ADM provide $2,082.50 per high school ADM, $1,117.50 per middle school ADM and $87.50 for every elementary ADM (2.5 times the number for a district with 2,000 or more ADM). Prorate the per ADM amount between 2,000 and 500 students. For districts with 150 or fewer ADM provide $2,499 per ADM for high school ADM, $1,341 per middle school ADM, and $105 per elementary school ADM (3.0 times the amount for a district with 2,000 or more ADM). Prorate the per ADM amounts between 500 and 150 students. Adjust these figures by an annual ECA.

Summary and Recommendation: Multiple policy analyses show that large numbers of students participate in extracurricular activities, from clubs to sports. Further, the studies find that, in general, such participation increases engagement in the academic side of education. That enhanced engagement results in higher student academic performance and greater participation in post-high school education, though the impacts can vary by the nature of the extracurricular activities, school supports for them, as well as by the demographics of students.

For 15 years prior to 2020, the EB Model provided between $200 and $314 per pupil for student activities, including intramural sports. These figures generally were in line with average amounts spent on such activities in many states (Odden & Picus, 2020). However, our research did not find a common model for allocating state support for student activities. As a result, in our 2020 recalibration study in Wyoming (see www.picusodden.com) we developed sports and activities prototypes for the EB Model's prototypical 450-student middle school and 600-student high school. The high school is virtually the same size as the Wyoming prototypical 630 student high school although the middle school is larger than the Wyoming prototype. We used the EB Model prototypes of 600 and as a starting point for assessing the costs of funding student activities in Wyoming.

The 2025 EB Model uses the 2020 prototypes and proposes an alternative approach to fund student activities, with future funding levels updated by the ECA. Inflating the 2020 EB Model recommendations annually provides for the 2025 EB Model recommendation of providing $833 per ADM for high school, $447 per ADM for middle school and $35 per ADM for elementary schools, prorating these amounts for different sized school districts as described in the above table.

Evidence and Recommendation

Participation in Student Activities

A 2009 national survey (Aud et al., 2012) asked high school seniors about their participation in high school activities including school newspaper, yearbook, music, performing arts, athletics, academic clubs (e.g., world language, science), student government and other school activities. Student respondents indicated 38% participated in athletics, followed by other school activities at 32% and music and performing arts at 24%. Female students participated in other school clubs at a rate of 40%, athletics 31% and music and performing arts 30%. Male students participated in activities as follows: athletics 46%, other social clubs 24%, music and performing arts 18%, and other activities 12%. Other than athletics, female students participated in activities at higher rates than male students.

About a decade later, Knop and Siebens (2018) used U.S. Census data to estimate the percentage of children aged 6 to 17 who participated in sports, lessons, and clubs between 1998 and 2014. After 1998, the percentage of children participating in sports was higher than participation in lessons or clubs. An increase in sports involvement occurred between 2011 and 2014, increasing by nearly 7 percentage points from 35% to 42%. Between 1998 and 2014, participation in clubs declined from 35% to 28%. Participation in lessons remained about 30% over these years. Children in poverty were less likely to participate in these three extracurricular activities.

The Census updated these figures in 2022 (Mayol-Garcia, 2022). Mayol-Garcia shows that the percentage of boys and girls participating in sports grew between 1998 and 2020, with a higher percentage (44) of boys participating in sports compared to 31% of girls. By contrast, the report shows that 29% of girls participated in clubs or took lessons in music, dance, etc., compared to just 24% of boys. All these percentages dropped for children from lower income families. The report

also cites several studies that show, overall, that participation in such non-academic activities is linked to higher academic performance, greater academic aspirations, strong self-esteem and resiliency and lower levels of risky behavior.

Impact of Participation in Student Activities

Research shows, particularly at the secondary level, that students engaged in student activities tend to perform better academically than students not so engaged (Feldman & Matjasko, 2005), although too much extra-curricular activity can be a detriment to academic learning (Committee on Increasing High School Students' Engagement and Motivation to Learn, 2004; Steinberg, 1996, 1998). Feldman and Matjasko (2005) found participation in interscholastic (as compared to intramural) sports had a positive impact for both boys and girls on: grades, post-secondary education aspirations, reducing dropout rates, lowering alcohol and substance abuse, and led to more years of schooling. The effect was particularly strong for boys participating in interscholastic football and basketball. One reason for these impacts is participation in interscholastic athletics places students in new social groups that tend to have higher scholastic aspirations and those aspirations "rubbed off" on all the participants. But the effects differed by race and gender and were not as strong for African Americans.

Fredricks and Eccles (2006) found that secondary students who participated in afterschool activities had higher academic outcomes, increased safety and higher participation in civic activities, and conversely reduced negative behaviors such as use of drugs and alcohol. Other research shows that participation in high school athletics has positive impacts on educational attainment and wages (Barron et al., 2000; Eoide & Ronan, 2001; Stevenson, 2010).

In addition, a U.S. Census Report (Knop & Siebens, 2018) found that children tend to have higher levels of school engagement when involved in one or more activities, like sports, lessons or clubs. The report found that 42% of children who took lessons (i.e., music, dance, etc.) were highly engaged compared to 33% of children who did not. Children in poverty were less likely to participate in each of the three extracurricular activities (sports, lessons and clubs) than those not in poverty and had less school engagement. Similarly, Crispin (2017) used multiple methods to analyze data from a 1988 longitudinal study and found that for both at-risk and non-at-risk students' participation in extracurricular activities reduced the likelihood of dropping out of high school by 14 to 20 percentage points. *In short, greater engagement in extra-curricular activities produces greater overall engagement in schools that in turn leads to better student academic performance and lower school drop-out rates.*

Thus, the positive impact of student extra-curricular activities on student performance is viewed by many as an integral component of a student's education. Across the country, schools invest in student activities and studies show that students who participate in extracurricular activities from grades 8 to 12 attend college, vote in national and regional elections and volunteer at a higher rate (Zaff et al., 2003). Despite the many positive impacts on academic achievement of students engaging in extracurricular activities. Balaguer et al. (2022) caution that the specifics of impact depend on gender, age, duration, and breadth of extracurricular activities. Some activities benefit girls more than boys, some activities have positive impacts in early adolescence but negative

impacts in later adolescence, etc. The implication is that schools should seek to tailor extracurricular activities to each student individually and not assume a "one size fits all."

Comparison to Other States Student Activities Expenditures

Funding for student extra-curricular activities is not a specific line item for most states. It is largely folded into general state funds and is not earmarked for specific use. We conducted a state-by-state search of state level funding models and found five examples for illustration and comparison with Wyoming.

Wyoming. Before comparing states, we calculated Wyoming's current expenditures for student activities. For school year 2023-24, Wyoming districts spent $52,783,132 for a statewide total of 88,389 ADM. This calculates to $597 per student for student activities expenditures.

Alaska. Alaska is an interesting state as it is largely rural and has major transportation costs associated with team travel that may require plane or ferry rides. We reached out to the Alaska Department of Education and Early Development and spoke with their school finance manager. She confirmed that there is no discrete statewide funding for student activities. It is part of the general education funding and is largely variable due to geographical realities. Since revenue specifics were not clear, we received a spreadsheet of Alaska districts' expenditures in their operating and special revenue funds for FY 22, FY23 and FY24. We utilized their school finance foundation funding webpage to find statewide average daily membership by year so that we could calculate per pupil amounts. Table 3.5 illustrates the student activities data.

Table 3.5 Alaska District Expenditures for Student Activities

Fund Type	FY2022 (*n*=106,290)	FY2023 (*n*=107,311)	FY2024 (*n*=105,985)
General	$298	$330	$348
Special	$199	$261	$277
Total	**$497**	**$591**	**$625**

The three-year per pupil average for student activities expenditures in Alaska is $571. If we compare Alaska's FY 2024 amount of $625 statewide average per pupil expenditures to Wyoming's FY 2024 amount of $597, we can conclude that the two states spend similarly on student activities.

Colorado. We also reached out to Colorado's Department of Education, in their School Finance Unit. The Financial Data Coordinator shared a link to their FY 2024 school district expenditures for high school and vocational schools excluding combination schools. Colorado indicated that they do not have student activities by revenue. They spent $107,208,086 on sports and $66,868,773 on nonathletic cocurricular activities, for a statewide high school and vocational total of $174,076,860. The ADM for this population was calculated at 222,414 students, which means $783 per pupil was spent on student activities for high schools and vocational schools. Interestingly, this is 6.8% (sports) and 4.3% (non-athletic cocurriculars) of the total instructional expenditures at the high school level.

Idaho. Considering another neighboring state, we contacted the Idaho Department of Education. Similar to other states, they do not have a line-item revenue element for student activities. Through a public records request and a phone call with the Senior Financial Specialist in their Public School Finance office, we obtained their per pupil expenditures on student activities for FY 2024. They sent revenue and expenditure data for their student activity fund (238), corresponding full-term ADA, and analyses for revenues and expenditures per pupil. The statewide average student activities revenue is $241.65 per pupil and the statewide average student activities expenditure is $251.18 per pupil.

Illinois. Illinois adopted the EB Model in 2017 but has not fully funded it. They have identified per pupil amounts by building type: $135 for elementary, $269 for middle, and $926 for high school. Because Illinois is largely funded at the local level, and the EB Model is not adequately funded at the state-level, these funding amounts for student activities are largely theoretical.

According to Illinois State Board of Education's (ISBE) Director of School Business Services, they estimate the cost of student activities statewide in FY2024 to be $571,652,187. ISBE noted that the number does not likely encompass the total cost of activities – some funds run through activity accounts that are not reported in detail to the state and transportation costs are not included in the total. For purposes of EB funding, they calibrate the cost factor each year using data from just high school districts and then approximate elementary and middle school expenses using the high school total (middle school is 29% of high school costs, elementary is 50% of middle school costs). For FY 2024 expenditures, they calculated high schools to have spent $995 per student, which gives middle schools a cost of $289 per student and elementary schools a cost of $145 per student.

The ISBE Director stated that the closest approximation of student activities transportation expenditures they have for school year 2024 (paid in fiscal year 2025) is the total non-reimbursable expenditures, which were $135,098,993. (This amount is from the transportation claim system which shows non-reimbursable expenditures, but those expenditures are based on more than just student activity miles driven.)

Nebraska. The final state example is another neighboring state. We reached out to the Nebraska Department of Education and connected with the Director of School Finance in their Office of Finance and Administrative Services. According to the Director and the AFR supporting data shared, Nebraska does not provide any line items in their state funding for student activities, so it is funded mostly at the local level. In FY 2024, their local revenues and other financing sources totaled $132,092,496 for student activities statewide. The Nebraska Public Schools state snapshot reports the statewide student membership as 328,649. Using these two figures, we calculate Nebraska's per pupil revenues at $402 for student activities.

The EB Model's Approach to Student Activities

Previous to 2020, the EB Model developed in other states allocated between $200 and $314 per pupil for student activities, including intramural sports. These figures generally were in line with

average amounts spent on such activities in many states (Odden & Picus, 2020). However, our research has not found a common model for allocating state support for student activities.

Thus, in our 2020 study in Wyoming (see www.picusodden.com) our consultant, Dr. Donald Schloman, developed sports and activities prototypes for the EB Model's prototypical 450-student middle school and 600-student high school. The high school is virtually the same size as the Wyoming prototypical 630-student high school although the middle school is larger than the Wyoming prototype. We used the EB Model prototypes of 600 and as a starting point for assessing the costs of funding student activities in Wyoming. The prototypes produced a figure of $600 per pupil for the high school and $322 per pupil for the middle school. Averaging these figures by weighting them for the different numbers of grade levels covered, together with $25 for elementary school, produced an overall figure of $284 per pupil, close to the EB Model's previous figure of $300 per pupil (Odden & Picus, 2020).

The 2025 EB Model uses the 2020 prototypes and proposes an alternative approach to fund student activities, with future funding levels updated by the ECA. Inflating the 2020 amounts to 2025 levels estimates that on average this provides $833 per ADM for high school, $447 per ADM for middle school and $35 per ADM for elementary schools, prorating these amounts for different sized school districts as described in the above table.

Central Office Functions

In addition to school-based resources, education systems also need resources for district level expenditures including operations and maintenance, the central office, and transportation. These are outlined below.

22. Operations and Maintenance and Utilities

The EB Model uses professional staffing formulas to compute the number of personnel needed for custodial, maintenance and grounds workers, and the EB and Wyoming Funding Models have used those formulas to estimate staffing for operations and maintenance costs since the 2005 recalibration. The 2020 recalibration modified the maintenance worker formula to no longer consider operating expenditures from FY 2025 as a factor. Additionally, funding is provided for utilities.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
CUSTODIANS		
The EB Model relies on a formula that estimates the number of custodians needed in a facility on the basis of: 1) number of model generated teachers; 2) school ADM; 3) number of classrooms as reported by the State Construction Department's School Facilities Division (SFD); and 4) authorized educational gross square footage (GSF) and averages the four computations. Adjustments are made for secondary schools and small schools (<49 ADM) Details in the following text.	Relies on the same formula as the EB Model. a formula that estimates the number of custodians needed in a facility on the basis of: 1) number of model generated teachers; 2) school ADM; 3) number of classrooms as reported by the SFD; and 4) authorized educational GSF and averages the four computations. Adjustments are made for secondary schools and small schools (<49 ADM) Details in the following text.	The EB Model relies on a formula that estimates the number of custodians needed in a facility on the basis of: 1) number of model generated teachers; 2) school ADM; 3) number of classrooms as reported by the SFD; and 4) authorized educational GSF and averages the four computations. Adjustments are made for secondary schools and small schools (<49 ADM) Details in the following text.
MAINTENANCE WORKERS		
The number of maintenance workers is calculated based on three factors: 1) type of building; 2) authorized educational GSF; and 3) school ADM. Further adjusted for the age and district size. Details in the following text.	Allocates the number of maintenance workers based on four factors: 1) type of building; 2) authorized educational GSF; 3) school ADM; and FY 2005 operating expenditures. Details in the following text.	The number of maintenance workers is calculated based on three factors: 1) type of building; 2) authorized educational GSF; and 3) school ADM. Further adjusted for the age and district size. Details in the following text.
GROUNDSKEEPERS		
Computed by site based on standards for work hours per year per authorized educational building acre, adjusted for intensity of use based on school level. Salary is same as for custodians. Details in the following text.	Relies on the EB Model for allocating groundskeepers except the salary is the same as a maintenance worker.	Computed by site based on standards for work hours per year per authorized educational building acre, adjusted for intensity of use based on school level. Salary is same as for custodians. Details in the following text.
SUPPLIES AND UTILITIES		
Funding for O & M supplies is calculated at a rate of $0.73 per GSF for authorized educational GSF plus 10% more for non-educational space.	Supplies funded at $1.02 per GSF of authorized educational space plus 10% more for non-educational space	Funding for O & M supplies is calculated at a rate of $1.02 per GSF for authorized educational GSF plus 10% more for non-educational space.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Funding for utilities is based on actual FY 2019 district expenditures as reported by the WDE (expenditure functions 3410-3450 & 3490 Only; Objects 451-459 plus communications - object 340, excluding special education functions 1210 & 2230 and student transportation functions 3510 & 3520) as adjusted by the ECA as computed annually. For additional school buildings added (not replacement schools) to a school district's building inventory after school year 2018-19, multiply the average GSF cost as adjusted by the ECA by the total authorized GSF.	Utilities funded at actual costs for 2009-10 updated by the utilities ECA. For additional school buildings added (not replacement schools) to a school district's building inventory after school year 2009-10, multiply the average educational GSF cost as adjusted by the ECA by the total authorized GSF.	Funding for utilities is based on actual FY 2025 district expenditures as reported by the WDE (expenditure functions 3410-3450 & 3490 Only; Objects 451-459 plus communications - object 340, excluding special education functions 1210 & 2230 and student transportation functions 3510, 3520 & 3530) as adjusted by the ECA as computed annually. For additional school buildings added (not replacement schools) to a school district's building inventory after school year 2024-25, multiply the average GSF cost as adjusted by the ECA by the total authorized GSF.

Summary and Recommendation: The EB Model first finds that multiple elements of facilities impact student learning, which makes adequate and clean buildings, with appropriate temperatures and air flow, important for effective teaching and learning.

The EB Model uses professional staffing formulas, based on multiple factors (e.g., square footage, numbers of students, teachers and classrooms, types of space such as bathrooms or gyms, etc.) to compute the number of personnel needed for custodial, maintenance and grounds workers. The Wyoming Funding Model has used those formulas to estimate staffing for operations and maintenance staff since the 2005 recalibration. Additionally, funding is provided for supplies ($1.02 per gross square footage) and utilities (based on school year 2024-25 utilities expenditures).

Evidence and Recommendation

Computation of operations and maintenance costs is complicated. States vary widely in how this function is resourced. Some school finance models allocate a percentage of current expenditures to operations and maintenance. In other states operations and maintenance costs are part of the foundation expenditure level, without a dollar specified amount. The EB and Wyoming Funding Models use professional staffing standards to compute the number of personnel needed for custodial, maintenance and grounds workers. Additional funding is provided for utilities.

This section has two parts. Part 1 reviews the literature on the linkage between facilities and student performance. The next part describes how the models provide staffing for operations and maintenance.

Review of Literature on School Facilities/Operations and Maintenance

There is substantial evidence of the effect that the quality of school facilities and level of operations and maintenance have on student performance (Allen et al., 2021; Biasi et al., 2024; Cash, 1993; Durán-Narucki, 2008; Earthman et al., 1995; Hines, 1996; Jackson & Mackevicius, 2021; LaFortune & Schönholzer, 2022; Lofton et al., 2025; NetZED, 2021; Schneider, 2002; Uline & Tschannen-Moran, 2008). This is important because the average public school is about 50 years old, with almost 40% built before 1971 (NCES, 2024a). Further, over the past few years, the American Society of Civil Engineers (2021, 2025) gave a D+ to the condition of public-school facilities in the United States; most needed some kind of major renovation, with over 50% needing new or updated HVAC systems. Critical needs include water upgrades to remove lead and installation of air conditioning because of rising temperatures. In 2023, 74% of school districts met the broadband bandwidth benchmark per student, as defined by the Federal Communications Commission. Because of the work Wyoming has done in the past two decades both building and renovating schools, it is likely that its schools are much newer and in better shape than these national reports find for the average American school.

The importance of operating and maintaining this investment is clear regardless of the strength of the relationship between them. Supporting this, Milhouse (2025) references Harvard's School of Public Health that wrote, "The evidence is unambiguous that the school building influences student health, thinking, and performance." These Harvard researchers (Allen et al., 2021) reviewed over 200 published students and identified 70 health performance indicators. For example, decaying and poorly maintained school facilities were linked to higher rates of asthma, which is the number one reason for student absenteeism. Their review also found that the physical school environment affected decision-making, concentration, attention, and memory. Similar to health and thinking effects, student performance was influenced by school facility quality.

Further, Filardo et al. (2019) address the equity implications that result from poorly maintained school buildings. Nationally, local districts are largely responsible for funding their own building maintenance and upgrades, which results in poor communities being unable to adequately maintain their facilities. Higher poverty districts spent 37% less on school facilities improvements than low poverty districts (Filardo, 2024). Often, these districts use operating funds to pay for needed repairs. This all becomes a self-fulfilling cycle of deferred maintenance and crumbling facilities in poor communities that end up negatively affecting student and teacher performance and health disproportionately more than students from wealthier communities. Similarly, Biasi et al. (2024) analyzed school district bonds data, test scores, and house prices for 20 U.S. states and showed that an increased school capital spending raises test scores and house prices on average. Of note, spending on basic infrastructure (such as HVAC) or on the removal of pollutants raised test scores. What ended up differing, though, were the impacts by community socio-economic status; districts that were socio-economically disadvantaged benefited more. Again, thankfully Wyoming has not put their districts in this predicament and as Young et al.

(2003) noted, has avoided opening themselves up to corresponding litigation based on equity claims.

Effects on students and teachers. Earthman et al. (1995) surveyed all high schools (*n*=199) in North Dakota regarding their school building conditions and compared it to the Comprehensive Test of Basic Skills and student disciplinary incidents, finding a positive relationship between student achievement and building condition, as well as between student behavior and school condition. He noted that his results mirrored those by Carol Cash's 1993 study investigating small high schools in one state, and Maureen Edwards' 1992 study of elementary schools in a large metropolitan city. Hines (1996) built upon the same methodology used in all three of these studies when he investigated high schools (*n*=88) in Virginia and found student achievement scores (11^{th} grade Test of Academic Proficiency controlled for SES) and discipline incidents (expulsions, suspensions, and violence/abuse) were higher in school with better building conditions. Unsurprisingly, he found science achievement scores were better in high schools with better science laboratory conditions. Climate control, locker, and graffiti conditions were positively related to student achievement.

At a professional conference, Earthman and Lemasters (1996) presented a preliminary review of Lemasters' forthcoming doctoral research. Their conference paper provided a quick, surface-level synopsis of Weinstein's 1979 review of 141 published studies, organized and summarized McGuffey's 1982 review of 88 studies, and added their own review of four additional studies. With McGuffey and their own identified studies reviewed, they found a clear linkage between the conditions of school facilities and student academic performance. A more comprehensive review was conducted in Lemasters' 1997 doctoral dissertation. Her paper analyzed Carol Weinstein's review of 141 published and 21 unpublished papers that examined how school buildings affected students and determined that though a statistically significant effect was not found for student achievement, that school facilities directly affected student attitudes. Lemasters' dissertation also delved deeply into the Caroll McGuffey's 1982 review of 88 published studies, resulting in the conclusion that poor facilities negatively affected student achievement. Lemasters' own review of research of 53 papers from 1980 forward found that well maintained school facilities have a positive impact on student achievement (see supporting citations by Lemasters: Bowers & Burkett, 1989; Cash, 1993; Earthman et al., 1995; Hines, 1996) and student behavior (see supporting citations by Lemasters: Bowers & Burkett, 1989; Hines, 1996). Lemasters' review of research also found that school facility design (i.e., areas for privacy in the classroom, lighting, and non-instruction noise) affected student health and learning.

Adding to the consensus that better school buildings contribute to higher test scores, Schneider (2002) conducted a review of research to examine these effects and the reasons behind it. He highlighted two studies in 1999 – one found positive correlations between 27 middle school design elements and student test scores, and the other found a correlation between newer facilities and student performance. He also underscored two 2000 studies – a Milwaukee study found that good facilities had a major impact on learning in buildings, and another found that student achievement lags in inadequate school buildings. The reasons behind these relationships vary, including that the better building quality may directly affect student behavior, which in turn

results in fewer discipline incidents. He also noted teacher performance being directly affected by building conditions, which then in turn affects academic achievement and student behavior.

Earthman (2002, 2017), who was for many years the leading researcher on school facilities in the United States, underscored the importance of school facility conditions, noting at the time that researchers had consistently found a deficit of between 5 and 17 percentile points in student performance in poorly maintained buildings compared to students in buildings maintained to a professional standard. The research Earthman cites also suggests, via correlational analysis, that teacher effectiveness decreases in schools with poor facilities. These findings led Earthman to argue not only for the importance of clean facilities, but also for the importance of quality thermal and acoustic materials in the learning environment of students. Another of Earthman's doctoral students at Virginia Tech, Bailey (2009), conducted a review of 54 studies from 1998-2008 and found that newer, well-maintained school facilities had a positive influence on student behavior, performance, and attitudes.

Multiple studies also concluded that the quality and condition of school facilities did importantly impact both teacher and student performance. Branham (2004) analyzed the quality of school infrastructure in 226 Houston schools and found that the use of temporary buildings, schools in need of repairs, and custodians per square foot had a negative effect on student attendance and dropout rates. The U.S. Environmental Protection Agency (n.d.) points out Branham's results on its website, specifying that "schools without a major maintenance backlog have a higher average daily attendance by an average of 4 to 5 students per 1,000 and a lower annual dropout rate by 10 to 13 students per 1,000." Similarly, The Center for Evaluation and Education Policy Analysis (2015) at Pennsylvania State University, referencing over 20 studies from 1975 to 2011, concluded that a growing body of literature was showing that school facilities had profound impacts on teacher and student performance.

A review of research completed by the Tennessee Advisory Commission on Intergovernmental Relations (Young et al., 2003) also showed a statistically significant relationship between the condition of a school or classroom and student achievement. Students attending schools in up-to-date facilities scored higher on standardized tests than those in substandard buildings. The committee concluded that policy makers should consider the relationship between school facilities and student learning outcomes, not only because of safety and welfare responsibilities to the students and staff, but also because a lack of adequate funding for facilities repairs and maintenance can undermine spending in other areas focused on educational reform. Their report showed positive educational outcomes were correlated with the following facility factors:

- New facilities,
- Well-maintained buildings,
- Thermal regulations to avoid excessive temperatures,
- Appropriate lighting levels,
- Utilizing relaxing shades of paint, and
- Limited external noise.

The Tennessee Commission (Young et al., 2003) highlighted the practical implications of poorly maintained facilities from a 1998 statewide survey conducted in Virginia by Daniel Duke.

Specifically, these implications included lost instructional time, reduced effectiveness of teaching and learning, diminished curricular options, and student health and safety issues.

A 2007 Virginia study of the link between school facilities and student performance (Bullock, 2007) found that multiple elements of school facilities impact school performance. Interestingly, the study found that student performance was higher in new and newly renovated schools, a finding of particular importance to Wyoming as it has been building new and renovating school buildings for the past 20 years. Drawing on this study, the Texas Association of School Boards (2022) argued that Texas needed to pay more attention to school facilities across the state, citing the Virginia study's finding that the difference between standard and substandard buildings produced a 6+ percent difference in students passing English tests, which, it argued, was "noteworthy because English affects all other academic areas." Both groups noted that the school environmental elements that mattered included acoustics and noise, air quality, lighting, temperature and classroom size and space.

In line with the Virginia study, Durán-Narucki (2008) found that the conditions of school building in 95 elementary schools in New York City predicted both attendance and academic achievement after controlling for SES, ethnicity, school size, and teacher quality. School attendance was the mediating factor between school building condition and academic achievement in English language arts and to a lesser extent in mathematics. This means that in run-down schools, students attended less days on average and consequently had lower grades on E language arts and math standardized tests. The reliability of the 20 school building conditions measured was especially reliable as it was collected in person by architects and engineers not employed by the school district. In the same line of research, Uline and Tschannen-Moran (2008) found a relationship between quality of school facilities and student achievement in mathematics and science at 80 Virginia middle schools. The significant climate variables were academic press, teacher professionalism, and community engagement. They found that these climate variables played a mediating role in the relationship between facility quality and student achievement.

The NetZED Lab (2021) at the University of Oregon expanded on these more specific findings with a review of 500 publications and concluded that the indoor quality of schools – thermal comfort (temperature), indoor air, lighting, views and acoustics – significantly impacted teacher and student performance: the better the air flow inside classrooms and the greater the amount of daylight in classrooms, the better student performance. NetZED's analysis also concluded that buildings in disrepair were found to be associated with student performance and absenteeism (see supporting citations by NetZED: Bowers & Urick, 2016; Durán-Narucki, 2008; Uline & Tschannen-Moran, 2008). Sadrizadeh et al. (2022) state that air quality in schools is critical for student learning, which is an issue since most schools were built decades ago and have "natural" (windows to open and close) rather than HVAC ventilation systems. Sadrizadeh et al. argued that "natural" ventilation systems are inadequate for students as they expose students to pollutants that negatively impact their learning and make it more complicated to control temperature.

Interestingly, for optimal learning, students need cooler classrooms than teachers would prefer, temperatures usually not possible if schools have only "natural" and not HVAC ventilation systems. Combined, such environmental realities in many schools – poor air quality and overly

warm classroom temperatures – negatively impact student cognitive activity. Bolstering these findings about temporal and air quality conditions in classrooms, Sorensen et al. (2024) found that improvements in HVAC systems in New York City schools reduced student absenteeism, reduced student suspensions and moderately increased student performance in mathematics and reading. Indeed, replacing schools' heating and cooling systems was associated with increased math achievement. They concluded that such efforts not only increase student comfort and well-being but also their academic performance. Further, the U.S. Environmental Protection Agency et al. (n.d.) highlights Shaughnessy et al. (2006) who found that "children in classrooms with higher outdoor air ventilation rates tend to achieve higher scores on standardized tests in math and reading than children in poorly ventilated classrooms." The EPA (n.d.) also notes that teachers and staff show improved performance with higher ventilation rates.

Contrasting research. Contrary to these findings on the positive relationships between specific elements of school facilities, and teacher and student performance, Picus et al. (2005) studied the correlation between the quality of Wyoming school facilities and student outcomes. School quality was measured with a 100-point scale developed specifically for Wyoming schools and used to assess every school. These scores were correlated with measures of student outcome controlling for student characteristics, and no statistically significant relationships emerged. Of note, Earthman (2017) referred to the Picus et al. study as a well-executed investigation with exact methodologies, as well as two other studies that did not find relationships between school facilities and student outcomes. Earthman further referenced Bailey (2009) in suggesting that the building assessment instruments in these studies may have been the key factor in the lack of relationships found. Specifically, instruments that focus on a wider array of building conditions including maintenance and engineering may have found less relationships than those assessment instruments that focused on building conditions that had previously been found to be directly related to student achievement.

Bowers and Urick (2011) conducted a 2-level hierarchical linear model with 8,110 students and 520 public high schools to determine if facility quality affects student achievement. After estimating the effect of facility disrepair on student growth in mathematics during the final two years of high school, controlling for multiple covariates, they found no evidence of a direct effect. Instead, they proposed a mediated effects model. Further, Brooks and Weiler (2018) in a study in Colorado found little or no link between facilities conditions as determined by a Colorado School Facilities Index and student scores on Colorado summative state tests. But these studies are outliers in the last two decades of research on the link between facilities and teacher and student performance. And it could be the case that an overall school facilities "index" or "score," which was used in each study, was insufficiently detailed to identify the specific factors that do impact student and teacher performance, as shown by the studies discussed in the preceding paragraphs.

On the link between facilities and student performance, we now argue that the bulk of research shows that there are important linkages, students and educators deserve and need adequate, clean, temperature-controlled, and well-maintained buildings (see also Baker, 2019). The challenge is how to provide such resources. The EB Model uses professional staffing standards to address this challenge for the *operations and maintenance* of school facilities. *Building and*

renovating school facilities is addressed by a different program in Wyoming and not addressed by this report.

Operational Guidelines for Educational Facilities

Bello and Loftness (2010) note that in 2002, Kowalski identified the types of components that must be maintained, how they should be maintained, the skills necessary to provide the maintenance, identifying the frequency of skilled or preferred maintenance, factoring the financial resources available for staffing, the jobs that are to be contracted to outside contractors and, whether staff skills can be combined.

The Association of Physical Plant Administrators, now called APPA, over the years developed a series of booklets providing guidelines for the operation and maintenance of educational facilities (APPA, 2020, 2022, 2023). Though the focus of APPA's work is on facilities in community colleges, four-year colleges and research universities, its principles, details on levels of cleanliness and maintenance, and how to conduct cost analyses of operation and maintenance can provide substantial guidance on state-of-the-art approaches to the operations and maintenance function in elementary and secondary schools. Though its books do not provide formulas for staffing custodians, maintenance workers and groundskeepers in public schools, its approach is similar to that used below, which derived from work done in California decades ago.

Professional Standards for Operations and Maintenance Staffing

Drawing on professional standards in the field, we have developed a cost basis for staffing operations and maintenance (Odden & Picus, 2020). The discussion below uses these standards to identify the needs for custodians (school level), maintenance staff (district level) and groundskeepers (school and district level), as well as the costs of materials, supplies and utilities to support these activities. Standards for facilities operation and maintenance are quite varied, and depend on multiple issues, such as for example, the level of cleanliness needed (hospitals have more restrictive needs than office buildings), the structures of the buildings (facilities with many small rooms like schools require more custodial staff than facilities with large spaces like convention centers), and when used (only during the day, only at night, or night and day).

The following standards fall within national practice as indicated by a national survey of maintenance and operation staffing standards conducted by Facilities.net (2017). The American Society of Civil Engineers (2025) reported that in 2022, of the total number of employees at K-12 schools nationwide, 4% worked in buildings and grounds, cleaning, and maintenance.

Custodians

Custodians are responsible for the cleanliness of school classrooms and hallways as well as for routine furniture set-ups and takedowns. In addition, custodians often manage routine and simple repairs like minor faucet leaks and replacing light bulbs, and are expected to clean restrooms, cafeterias/multipurpose rooms, lockers and showers. Custodial workers' duties are time-sensitive, structured, and varied. Many schools see custodians as front-line employees who often interact with teachers and students daily. Custodians are also often responsible for ensuring that

major mechanical equipment within the facility runs well and identifying appropriate services to make repairs when needed.

Space. According to Bello and Loftness (2010), one of the most cited studies is that by Greenhalgh (1978), who recommended one custodian to be employed for every 15,000 square feet (1,400 square meters) of space, for every 11 classrooms, for every eight teachers, and for every 250 pupils. According to the American School and University Magazine, in terms of adequacy, 2000-2009 custodian staffing levels were inadequate judging by the recommended level by Greenhalgh (1978). The actual staffing level custodians were maintaining twice the recommended area. To align with actual staffing levels for maintenance workers, the authors suggest the space maintained per worker should be brought closer to 80,000 square feet (7,400 square meters).

Time. Bello and Loftness (2010, p. 39) also highlighted Milshtein's 1998 formula for making staffing decisions based on time estimates: Estimated Cleaning Time = (Average time per square foot for cleaning material) X (Total square feet of material to be cleaned) X (Frequency of cleaning the material).

Level of cleanliness. The U.S. Department of Education et al. (2003) has established five levels of cleanliness for school facilities, including how many square feet can be cleaned by a custodian in an eight-hour shift. The California Association of School Business Officers (CASBO) used the same cleanliness levels as do other states and school districts (e.g., Arkansas Division of Public Schools (2009), Omaha, Anaheim School District (2014) and the APPA (2023) for post-secondary facilities):

- Level 1 cleaning results in a "spotless" and germ-free facility as might normally be found in a hospital or corporate suite. At this level, a custodian with proper supplies and tools can clean approximately 10,000 to 11,000 square feet in eight hours.

- Level 2 cleaning is the uppermost standard for most school cleaning and is generally reserved for restrooms, special education areas, kindergarten areas, or food service areas. This service level for classrooms includes vacuuming or mopping floors daily and sanitizing all surfaces. A custodian can clean approximately 18,000 to 20,000 square feet in an eight-hour shift at this level.

- Level 3 cleaning is the norm for most school facilities. It is acceptable to most interested parties and does not pose any health issues. Classrooms are cleaned daily, which includes dumping trash and cleaning common area surfaces such as sinks and door handles. Carpets are vacuumed and surfaces used by students are sanitized every other day. A custodian can clean approximately 28,000 to 31,000 square feet in eight hours at this level

- Level 4 cleaning is not normally acceptable in a school environment. Classrooms would be cleaned every other day, carpets would be vacuumed every third day, and dusting would occur once a month. A custodian can clean 45,000 to 50,000 square feet in eight hours at this level.

- Level 5 cleaning can very rapidly lead to an unhealthy situation. Trash cans might be emptied and carpets vacuumed only weekly. One custodian can clean 85,000 to 90,000 square feet in eight hours at this level.

The custodial staffing standards we found were targeted to the Level 2 standard of cleanliness. Often custodial staffing numbers were determined mainly by cleanliness levels and square footage. But other factors should be considered, such as the number and type of rooms, intensity of use, etc.

Indeed, in work several years ago, Zureich (1998) developed staffing standards for public schools in California that used multiple factors. Zureich's standards were updated by Nelli (2006) as part of a Wyoming adequacy study. The factors include the number of teachers, students, classrooms and gross square feet (GSF) in the school and are as follows. Variations of this approach have been used in the Anaheim School District (2014), Arkansas Division of Public Schools (2009),[25] and Arlington, VA (Hanover Research, 2009):

- One custodian for every 13 teachers, plus
- One custodian for every 325 students, plus
- One custodian for every 13 classrooms, plus
- One custodian for every 18,000 authorized educational GSF, and
- The total divided by four to calculate a base FTE school level custodian position.

This base FTE position is further adjusted by an additional 0.5 FTE for secondary schools. Custodian positions for non-educational buildings are based solely on GSF. Schools with 49 or fewer ADM do not generate custodial FTE positions. Custodian positions for non-educational buildings are based solely on the GSF factor, which is limited to 10% of a district's total authorized educational GSF divided by the Zureich factor (18,000 GSF).

The formula calculates the number of custodians needed at prototypical schools and the district. The advantage of using all four factors for the school custodians is it accommodates growth or decline in enrollment and continues to provide the school with adequate coverage for custodial services over time.

During the 2020 recalibration, we found three other staffing standards for determining custodians for school buildings:

1. A public formula used in Pennsylvania (Pennsylvania Association of School Business Officials (PASBO),
2. A private sector formula used by Aramark and other private providers of cleaning for schools, and
3. A public formula used by Florida to suggest M & O staffing for schools (Florida Department of Education, 2014).

To compare the four different approaches, we used a simulation for the generic EB Model that comprises a 3,900-student prototypical school district, with four 450-student elementary schools,

[25] Downloaded June 2025 at https://dese.ade.arkansas.gov/Files/Custodial_Information_FAS.docx

two 450-student middle schools and two 600-student high schools. The EB Model yields a total of 23.3 custodians for this prototype.

The Pennsylvania formula for staffing custodians uses the same four factors as the EB Model – number of teachers, students, classrooms and GSF as well as the additional factor of the number of washroom fixtures (sinks, urinals, toilets) – but has different benchmarks for each of these five elements. Pennsylvania's model is as follows:

- 1 custodian for every 9 teachers
- I custodian for every 300 elementary/200 secondary students
- 1 custodian for every 12 classrooms
- 1 custodian for every 16,000 Gross Square Feet (GSF)
- 1 custodian for every 35 washroom fixtures (sinks, urinals, toilets)
- All the above summed and divided by 5.

The Pennsylvania model yields a total of 27.3 custodians for the EB Model prototypical district or four additional custodians.

The private sector model employs a simpler formula for cleaning, using only GSF of the building. It then takes 80% of the GSF as Cleanable Square Footage (CSF) and provides one custodian position for every 22,000 CSF for elementary schools and one custodian position for every 28,000 CSF for secondary schools. The private sector model yields just short of 20 custodians for the prototypical EB Model, about 3.3 fewer custodians than the EB Model and 7.3 fewer than the Pennsylvania model.

The Florida model is similar to the private sector model but uses 19,000 CSF instead of 22,000 CSF. This would allow for more custodians than the private sector model but fewer than the Pennsylvania model putting it very close to the current EB Model. The Florida model would produce 25.8 custodians, 2.5 more than the current EB Model.

All four models are relatively close in their calculation of custodial staffing. The Pennsylvania model, though, assumes a higher level of cleanliness that is often associated with hospitals and nursing homes. The private sector model assumes that cleaning is largely a nighttime function provided by part time workers. Schools, however, need custodial support during the day so the leaner private sector model would place at most one custodian at the school during the day. The Florida model produces somewhat more custodians. We conclude that the current EB Model, which provides a level of custodial staff in between these three alternative standards, is the most appropriate choice for staffing custodians for the education sector and Wyoming.

Maintenance Workers

Maintenance workers function at the district level, rather than at individual schools. Core tasks provided by maintenance workers include preventative maintenance, routine maintenance and emergency maintenance response activities. Individual maintenance worker accomplishment associated with core tasks are (Zureich, 1998):

- HVAC systems, HVAC equipment, and kitchen equipment,
- Electrical systems, electrical equipment,
- Plumbing systems, plumbing equipment, and
- Structural work, carpentry and general maintenance/repairs of buildings and equipment.

Zureich's standards for maintenance workers for instructional facilities are as follows:

- Calculated on the basis of four factors:
    - An initial 1.10 maintenance worker FTE, plus
    - One maintenance worker for every 60,000 allowable educational GSF at factor of 1.2, plus
    - One maintenance worker for every 1,000 School ADM at factor of 1.3, plus
    - One maintenance worker for every $5 million of general fund operating expenditures from SY 2004-05 at a factor of 1.2.
- These four FTE factors are added together and divided by four to arrive at a base maintenance worker FTE.
- The base FTE is further adjusted for:
    - School level (base FTE is multiplied by 0.80 for elementary schools, 1.0 for middle schools, and 2.0 for high schools)
    - Building age, where schools under 10 years old are multiplied by a factor of 0.95 and over 30 years old by a factor of 1.10, and
    - Small district size where the base FTE is multiplied by a factor of 1.10 for districts with ADM under 1,000.

We think it makes sense to either adjust the $5 million general fund operating factor to a number relevant to today's general fund levels or consider eliminating it from the calculation. In the 2020 recalibration, the factor was eliminated. The size of school district general fund budgets has increased considerably over the past years since this formula was developed, and we have been unable to identify an empirical basis for an alternative number. The only data available is APA's 2024 facility performance indicators, which for the Rocky Mountain region found total maintenance costs at $1.80 per GSF, maintenance labor only cost $1.47 GSF, and maintenance cost at $422.74 per student. The impact of eliminating this computation produced a modestly higher number of maintenance workers in a recent state adequacy study; it provides modestly fewer workers for the prototypical district. We also assume that the maintenance worker FTEs determined based on a district's authorized educational GSF for schools are sufficient to service all buildings in a district, both educational and non-educational.

Florida has a simpler formula to determine the number of maintenance workers (Florida Department of Education, 2014):

- One Maintenance FTE for every 45,000 sq. ft, and
- One Support FTE for every six maintenance workers.

The current EB Model formula produces 9.88 maintenance staff in a prototypical school district of 3,900 students while the Florida formula produces 13.8 maintenance staff plus 2.3 support staff to support the maintenance workers – this amounts to 3.9 more maintenance workers and 2.3 more support staff.

The EB Model uses the standard recommended by Zureich (1998). In our search for how other states provided for maintenance workers, we found the above Florida standards that provide more staff than the EB Model. We also found an Arkansas formula[26] that provided fewer staff. Thus, the EB Model provides staff in between these two other states. Most states simply do not reach this level of detail in their school funding models. We did find some districts that used a similar maintenance staffing formula (e.g., Anaheim School District, 2014); its formula included both educational square footage as well as the number of students in the district. In the end, we concluded that the EB Model's formula was adequate.

Unlike custodians, there is some uncertainty in projecting staffing loads and maintenance costs without assessing the individual needs of each district and its composite buildings. For example, one district that has a centralized HVAC control system might be able to monitor and project motor or condenser failures well in advance and thus hold down costs, while this possibility is not available to another district that does not have a centralized HVAC monitoring system. Private sector companies that provide services in this area use sophisticated software that calculates staffing needs and costs based on the individual inventory of the district.

Groundskeepers

The typical goals of a school grounds maintenance program are generally to provide safe, attractive, and economical grounds maintenance (Mutter & Randolph, 1987). This, too, is a district level function. We have estimated that an elementary school needs 62 days per year of groundskeeper support, a middle school 140 days and a high school 388 days per year. Groundskeepers are determined at the site rather than building/program level. The number of groundskeepers for all sites, both educational and non-educational, is based on the following:

- The number of acres of the site and the standard for the number of annual work hours per acre (93 hours). The FTE calculation assumes a 2,008-hour work year for groundskeepers.
- The initial FTE is adjusted for the primary school level or use of the site, with non-educational and elementary school sites receiving no additional adjustment, middle school sites receiving an adjustment factor of 1.5 and high school sites an adjustment factor of 2.5
- The Wyoming Funding Model resources non-educational sites at the rate of 10% of educational sites. The Wyoming Funding Model has added additional requirements for groundskeeper FTE calculations for acreage acquired by a district after July 1, 1997. These sites' acreages are based upon the lesser of the actual site acreage on which the facility is situated or the SFD guidelines:

    - Elementary schools, four acres plus one acre for every 100 ADM
    - Middle schools 10 acres plus one acre for every 100 ADM
    - High schools, 20 acres plus one acre for every 100 ADM

[26] Downloaded June 2025 at https://dese.ade.arkansas.gov/Files/Custodial_Information_FAS.docx

- In instances where districts acquired acreage after July 1, 1997 through an exchange of land with another government entity, and the acreages involved in the exchange were originally acquired by the district and the government entity on or before July 1, 1997, the acreage is not subject to the SFD guidelines. The entire acreage will be used in the calculation of groundskeeper FTEs. If a district has acquired a site after July 1, 1997, and the site is without a facility situated on it or has a facility under construction, groundskeeper FTEs will not be generated for the acreage.

The U.S. Department of Education et al. (2003) provided recommendations for grounds care staffing (p. 85):

- Acceptable = staff 1:20 acres
- Standard = staff 1:18 acres
- High = staff 1:15 acres

Florida has a suggested staffing formula for groundskeeper positions for schools, that is simpler than the EB Model:

- Total acreage divided by 40
- Add one FTE
- Plus, one FTE per 500,000 gross square feet (GSF) of athletic fields.

This formula produces more groundskeeper positions than the EB Model. The Arkansas formula[27] also seems to provide more grounds workers, though it is difficult to make comparable calculations. All formulas seem to use acreage with multiple types of modification. It is also important to note that the Wyoming Funding Model generates resources for educational sites only and provides non-educational sites an amount equal to 10 percent of the total generated by educational sites. We see no compelling rationale to adopt either for Wyoming and thus retain the Wyoming Funding Model standard.

Supplies/Materials

The current EB Model provides $1.02 per GSF for operation and maintenance supplies and materials for authorized educational GSF. Funding for non-educational space is equal to 10% of a district's total authorized educational GSF.

Utilities

According to Filardo (2024), utilities are about 22% of school district maintenance and operations costs. Utilities funding in the Wyoming Funding Model is based on actual FY 2010 expenditures, as adjusted by the ECA enacted by the Legislature and new (not replacement) school buildings added. The 2020 EB Model utility costs are based on the actual FY 2019 expenditures, as adjusted by the EB Model ECA. Given changes in utilities costs over the past

[27] Downloaded June 2025 at https://dese.ade.arkansas.gov/Files/Custodial_Information_FAS.docx

several years, we recommend that Wyoming reset the base and use the actual districts' expenditures for utilities in FY 2025, adjusted by the ECA in subsequent years and any new (not replacement) schools.

2022 Wyoming and U.S. Operations and Maintenance (O & M) Expenditures

The National Center on School Infrastructure (2025) provides an interactive dashboard based on National Center for Education Statistics (NCES) data. For the purposes of providing context, it may be helpful to compare Wyoming O & M expenditures[28] to the United States as a whole. In 2022, the most recent data available, Wyoming (n = 55 LEAs) spent $1,898 per pupil, above the $1,471 national ($n$ = 17,887 LEAs) average by about $400 per student. As a proportion of total district operation expenditures (TDOE)[29], Wyoming spent 10% of its TDOE on O & M compared with the national average of 9.3%. This national average proportion seems to have stayed relatively static over the past 20 years as Agron (2007) published 2006 survey data from chief business officials in the U.S. with O & M at 9.19% of total district expenditures.

To put these 2022 expenditures in perspective, Wyoming spent a total of $19,863 per student on O & M over the last ten years that data is available (FY13-22). This comes out to a per student annual average (FY13-22) of $1,986. Since this per student amount over the last decade is within about $100 of the 2022 amount, it can be assumed that the 2022 expenditures are relatively representative of spending and not an outlier year. Based on a 3% current replacement value (CRV) standard for maintenance and operations, Filardo (2024) determined that in fiscal years 2017-2019, nationally, districts should have been spending $1,726 per student, or $10.30 per square foot. This puts Wyoming's 2022 spending of $1,898 squarely in line with recommendations.

Lastly, an interpretation of this $400 per student difference in spending does not necessarily mean Wyoming is "overspending." As a result of the implementation of the EB model, Wyoming has a history of providing funding for adequate facility maintenance and operations. This funding commitment is not the norm in other states, and therefore it is reasonable to interpret the difference as a funding deficit in other states rather than an excess in Wyoming. Moreover, the methodology of estimating O & M staffing and supplies costs based on the best available evidence is the foundation of the EB Model, so this comparison to the national average is just a point of context - not a suggestion for how to calculate the element.

As an example, Vincent and Quintero (2024) examined California's school facility funding using the industry standard of 3% of CRV for maintenance and operations. They found that California school districts fail to adequately invest in school facilities upkeep, leaving more than half of students attending subpar school facilities. The National Forum on Education Statistics (2018) also identifies the standard for annual maintenance and operation funding as 3% of CRV for

[28] NCES's definition for O & M data is "district expenditures for utilities, property insurance, care and upkeep of grounds and equipment, regular maintenance services, minor repairs, *nonstudent* transportation vehicle operation and maintenance, and security services."

[29] NCES defines TDOE as "all instruction, support services, and other district operating expenditures, but exclude any capital outlay and interest on debt." This means that any difference is not a result of spending on new buildings or related facility construction costs.

facilities. Thankfully, Wyoming has adequately funded maintenance and operations so that they are not in a similar situation.

Finally, what is often missing in these calculations is an accounting of maintenance backlog. Bello and Loftness (2010) developed a new plant value methodology for annual facility maintenance with backlog investment: [2% x ((0.35 PRV) + (0.65 x CPV))] + [2% x ((0.35 PRV) + (0.65 x CPV))]. This equal add-on to account for maintenance backlog is something that Wyoming may want to further study for its calculations of adequate school facility maintenance.

23. Central Office Staffing and Non-Personnel Resources

All districts require central office staff to meet the overall management needs of their educational programs. Determining an adequate staffing level for very small districts is challenging, and in the past, the Wyoming Funding Model has been relatively generous in the number of staff it provides. During this recalibration, we received substantial feedback from PJP panels that our central office staffing model be revised to reflect the change in operations in Wyoming districts since this model was initially developed. Consequently, the 2025 EB Model provides adequate personnel to manage today's technology programs, while recognizing that individual districts may make different choices regarding how to allocate technology resources. We believe this approach provides districts the flexibility to assign technology staff to meet specific needs. The result is the addition of several new central office positions recognizing the additional technology demands of schools and school district administration have changed with much focus on centralized services. In some instances, a limited number of technology positions were eliminated from school sites as those functions generally are transferred to the central office.

The specific personnel categories in our revised EB central office model for Wyoming are as follows:

Professional Positions

Superintendent: One superintendent per district regardless of size with an average salary of $164,367 as recommended in Dr. Stoddard's report.

Deputy/Assoc./Asst. Superintendent: One level below the superintendent, these positions include individuals with "superintendent" in their title and as appropriate Chief Financial or Chief Business Officers, with an average salary of $124,994 as recommended in Dr. Stoddard's report. A minimum of 1.5 positions is included for districts with 500 or fewer ADM and additional positions are prorated up to a maximum of 4 positions at 4,000 ADM.

Directors/Coordinators: One level below the Deputy positions, these central office positions are budgeted at a salary of $115,905 which was estimated as the same as a principal salary because there are not enough comparable positions in Wyoming to reach a separate estimate. These positions are only included for districts above 2,000 ADM.

Other Professional Positions: These are other professional positions in the central office, with an average salary of $90,000. Because there are not enough comparable positions in Wyoming to derive a salary estimate, in consultation with Dr. Stoddard, we used $90,000 as a reasonable

salary for these mid-management positions. These positions are only included for districts above 4,000 ADM.

Classified Positions

Secretaries, Accounting: we have consolidated clerical, secretarial, financial and accounting (including bookkeeping) into one category at an average salary of $47,432. This is based on Dr. Stoddard's estimates from her report.

Network Supervisor (computer network specialist): These are higher level technology positions with a salary of $68,516 estimated from the Wyoming job category "computer network specialist" by Dr. Stoddard. These positions are only included for districts above 2,000 ADM.

Software Manager (computer network specialist): These are higher level technology positions with a salary of $68,516 estimated from the Wyoming job category "computer network specialist" by Chris Stoddard. These positions are only included for districts above 2,000 ADM.

Computer tech (computer use specialist): These computer technicians as described in the EB report with an estimated salary of $60,358 based on the comparable salaries from the Wyoming job category "computer use specialists" as estimated by Chris Stoddard. These positions are funded for all school district ADM levels

Table 3.6 provides a summary of our recommendations for central office staffing in Wyoming school districts.

Table 3.6: Personnel Allocations and Average Salary for Central Offices

Position and description/discussion	#	Salary
500 or Fewer Student District		
Professional (2.5)		
Superintendent	1	164,367
Deputy/Assoc./Asst. Superintendent	1.5	124,994
Classified (3)		
Secretary/Accounting, etc.	2	47,432
Computer Tech	1	60,358
1,000 Student District		
Professional (3)		
Superintendent	1	164,367
Deputy/Assoc./Asst. Superintendent	2	124,994
Classified (5)		
Secretaries/Accounting, etc.	3	47,432
Computer Tech	2	60,358
2,000 Student District		
Professional (4)		
Superintendent	1	164,367

Position and description/discussion	#	Salary
Deputy/Assoc./Asst. Superintendent	3	124,994
Classified (9)		
Secretaries/Accounting, etc.	6.5	47,432
Computer Tech	2.5	60,358
4,000 Student District		
Professional (8)		
Superintendent	1	164,367
Deputy/Assoc./Asst. Superintendent	4	124,994
Directors/Coordinators	3	115.905
Classified (17)		
Secretaries, Accounting	10	47,432
Network Supervisor	1	68,516
Software Manager	1	68,516
Computer Tech	5	60,358
12,000 Student District		
Professional (24)		
Superintendent	1	164,367
Deputy/Assoc./Asst. Superintendent	4	124,994
Directors/Coordinators	9	115.905
Other Professional Positions	10	90,000
Classified (39)		
Secretaries, Accounting	20	47,432
Network Supervisor (computer network specialist)	2	68,516
Software manager	2	68,516
Computer Tech	15	60,358

Evidence and Recommendation

All districts require central office staff to meet the overall management needs of their educational programs. School district central office administrators exercise leadership, in partnership with school-site leaders, to build capacity throughout the district for teaching and learning improvements. Central Office functions include the overall management of all aspects of a school district regardless of enrollment, including fiscal management (e.g., budgeting, accounting, enrollment and fiscal projections), supervision of teaching and learning, human resources, legal matters and communications. Central Office functions require both professional and classified personnel.

Over the past 20 years, we have developed central office staffing recommendations in states where we have conducted adequacy studies. Initially, we began with the research of Elizabeth Swift (2005), whose Ed.D. dissertation at USC relied on professional judgment panels to estimate adequate central office staffing for a prototypical school district. That research addressed the issue of appropriate staffing for a district of 3,500 students. Swift's work formed the basis of our early state analyses. We conducted further professional judgment panels in

several adequacy studies (North Dakota, Washington, Wisconsin, and Wyoming in 2015, 2020 and again in 2025) to review the basic recommendations that emerged from Swift's research.

Beyond the Swift study and our professional judgment panels, the research basis for staffing school district central offices is relatively limited. The 2009 Educational Research Service Staffing Ratio report showed that nationally, school districts with between 2,500 and 9,999 students employed an average of one central office professional/administrative staff member for every 440 students (Educational Research Services, 2009). This equated to about eight central office professionals (7.95) in a district of 3,500 students.

Over time, we realized that the 3,500-student district size we used for estimating central office staff did not readily incorporate the EB Model's prototypical school and school district size we had developed. Consequently, we modified our central office staffing estimates to use a district size of 3,900 students with eight schools as described above.

By using a district with 3,900 students, it was possible to add testing and evaluation, and computer staff to our central office staffing estimates. This is supported by current operations of school districts, the professional judgment panel recommendations we have generated from a number of states in recent years (e.g., Maryland, Michigan, and Vermont), recommendations from a superintendents' panel during the 2015 Wyoming recalibration, and from the District Leadership Council during the 2020 recalibration.

Technology staffing requires a wide range of expertise from school level "break and fix" technicians to experts in cyber security and high-level networking. Many of the tasks performed by high-level experts such as cyber security or networking professionals are typically contracted by the district or site level and then monitored remotely by that professional or private provider.

Considering the prototypical-sized school and the average-sized school district in Wyoming, schools and districts likely need to consolidate funds from the school sites, and/or district, to hire and share, the highest levels of technical support personnel or to contract for expertise with a company specializing in these areas.

The EB recommendation for funding technology at the prototypical school has allotted dollars for computer networking equipment, including the maintenance and repair, as well as for administrative software such as student administration, work order and repair, and learning management systems. Despite the dollars being allocated at the school site, the reality is that most districts take on these responsibilities, leveraging school site dollars to either hire or contract to perform these functions.

Examples of personnel typically hired at the district level include:

- Director of Technology (typically responsible for technology and instructional technology efforts in the district, may take on some of the responsibilities listed in the positions below).
- Networking, server and software rights manager, including single sign on security, financial system management, telephone software management, and software licensing

- Student data and student administration system technician, including learning management software (sometimes housed with technology staff, sometimes part of the instructional team).
- Work order system technician (usually part of facility maintenance team, but includes computer repair requests, typically provides other administrative support to the maintenance division with not managing the workflow of the system).
- Computer imaging and repair technician (typically 1 per every 1,000 students), librarian and library media technicians handle most incidental break and fix at the school sites)
- Services typically contracted for by average sized districts (3,000 to 4,000 students) include cybersecurity and cybersecurity monitoring, initial networking configuration and hardware setup, and installation and monitoring of bandwidth.

Non-personnel Resources: The EB and Wyoming Funding Models provided the same amount of money per ADM, to cover additional, non-personnel central office expenses such as school board support, legal services (which in larger districts can become a district lawyer), office supplies and equipment including computers, property insurance (fees for which have been increasing), and other non-staff expenses. The EB Model figure is $606 per ADM which includes $50 for technology equipment and is subject to an annual ECA. At the district level, the EB recommendation provides a $50 per student allocation which goes toward the initial cost of networking equipment, computers, and some contracted services at the district office. The recommendations identified at the top of this section reflect the best evidence to date on the number of central office positions needed based on a school district's size.

24. Transportation

Wyoming has maintained a reimbursement model for transportation since the late 1990s and despite numerous studies, the Legislature has not identified a funding formula that it believes is preferable to the current reimbursement model. We recommend that for the foreseeable future, the state continue with the 100 percent reimbursement of all to and from school student transportation costs (regular and special education) as well as student activities transportation costs (up to a 150-mile radius from the school district). The latest comprehensive study of transportation in Wyoming was conducted by APA as part of their 2017 recalibration study.

25. Food Services

Please see the section of Chapter 4 of this report discussing Food Service Operations. That section reviews food service programs in light of the February 2025 Court decision

Resources for Struggling Students

The staffing for core programs section contains positions supporting both teachers and students in addition to the core classroom teachers. Those positions include elective or specialist teachers, core tutors, instructional facilitators, substitute teachers, core counselors and nurses, supervisory aides, librarians, school computer technicians, school administrators, and school secretarial and clerical staff.

In many instances, struggling students need additional instructional support in order to meet performance expectations. The resources described in this section extend the learning time for struggling students in focused ways. The key concept is to implement the maxim of standards-based education reform: keep standards high for all students but vary the instructional time to give all students multiple opportunities to achieve to proficiency or higher levels. The EB Model elements for extra help are also embedded in the RTI schema described earlier in this chapter.

It is important to note the Wyoming Funding Model uses two specific counts of pupils used to generate resources for struggling students. The EB Model uses these same pupil counts. Wyoming Statute and WDE rules and regulations provide the specifics on how these counts are generated, but in general they are defined as:

1. At-risk count: defined as the unduplicated count of students eligible for free and reduced-price lunch, ELL students and mobile students in grades 6-12
2. ELL count: The number of students defined as ELL.

It should be noted that the Wyoming at-risk pupil count includes all ELL students, so *all* of the resources triggered by the number of at-risk students provide extra resources for ELL students, as well as non-ELL students from poverty backgrounds and secondary students who are mobile.

The EB Model provides substantial additional resources for students based on the at-risk student counts – tutoring, extended day, summer school, and pupil support. These resources for students struggling to achieve academic standards should be viewed in concert with resources for students with identified disabilities. Districts sometimes over identify students for special education services as the "only" way to trigger more resources for some struggling students. The EB Model goal in expanding resources for struggling students triggered by at-risk counts is to provide adequate resources for all struggling students, with or without a diagnosed disability, and to reduce the incidence of students needing special education services.

The core EB recommendation for all the programs that provide struggling students with extra help includes just the staff needed to implement the programs for struggling students – tutoring, pupil support, extended day, summer school, and ELL. Staff responsible for these programs also need appropriate curriculum and instructional materials to support the students enrolled. The EB Model recommends $300 per ADM for instructional materials, or approximately $50 for each of six curriculum areas (math, science, history, English language arts, foreign language, and one elective). We assume that each of the five extra help programs represent an additional curriculum area and therefore recommend $50 per struggling student in each of the five programs.

This section includes discussion of seven categories of services: tutoring, additional pupil support, extended day, summer school, programs for ELL students, alternative schools, and special education. Remember, that ELL students trigger the tutors, pupil support, extended day and summer programs, as well as the additional ELL resources.

26. At-Risk Tutors

Students struggling to achieve standards need additional instruction and the first and most effective strategy is to provide some combination of 1-1 or small group tutoring. In addition to

the one core tutor position provided to every prototypical school discussed above for Element 8, the EB Model provides additional tutor position at the rate of one for every 100 at-risk students.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 teacher tutor position for every 125 at-risk students.	Provide 1.0 tutor position for every 100 at-risk students, with a minimum of one tutor position in each prototypical school. Not provided for small or alternative schools.	Provide 1.0 tutor position for every 100 at-risk students.

Summary and Recommendation: The discussion for Element 8 above provided the general evidence for tutors as an effective strategy for helping struggling students to achieve to higher performance standards. And although the bulk of the evidence addressed one-to-one tutoring, Element 8 also discussed research on small group tutoring, up to groups of 5 students. Most research on tutoring was conducted prior to the COVID pandemic, which led to dramatic learning loss across large numbers of students in the country. This reality led some analysts to conduct research on the impact of a new form of tutoring, called High Dosage Tutoring (HDT). HDT uses one person to tutor one, two or up to five students at a time for one period a day and usually for five days a week. HDT provides substantially more time than the traditional 20-30 minutes of tutoring previously studied. Rather than a licensed teacher, HDT is usually provided by a recent college graduate who has training in a specific math or reading tutoring program, or other content area linked to the school's curriculum. The tutors are not volunteers, nor traditional paraprofessionals, but full-time employees who have earned a bachelor's degree in a content area and are typically paid at a rate close to a new teacher.

In addition to the one tutor position for every prototypical school, the EB Model provides additional tutoring staff at the ratio of one tutor position for every 100 at-risk students.

Evidence and Recommendation

One of the most effective strategies to provide extra help for students struggling to achieve performance standards is tutoring, as described in Element 8. Element 8 provided the general evidence for tutors as an effective extra help strategy for such struggling students. And although the bulk of the evidence addressed one-to-one tutoring, Element 8 also addressed research on small group tutoring, up to groups of 5 students. However, most research prior to 2020 addressed the impact of "standard" tutoring that generally provided 20-30 minutes of tutoring three times a week. When COVID hit, that was considered insufficient for the pandemic induced learning loss across many subjects and many students in the country.

This led experts and schools to create and then analysts to assess the impact of HDT. Brown University Professor Matthew Kraft and the late Johns Hopkins University Professor Bob Slavin recommended the development of a national effort of "high dosage tutoring" as the strategy to reverse the learning loss caused by COVID (see also Barshay, 2020). Rather than a licensed

teacher, HDT is usually provided by a recent college graduate who has been trained in a specific math or reading tutoring program, or other content area (e.g., science) linked to the school's curriculum. Tutoring is usually provided for one period a day every day of the week, for groups of up to five students. The tutors are not volunteers, nor traditional paraprofessionals, but full-time school employees who have earned a bachelor's degree in a content area and paid at a rate close to a new teacher.

Research, much of it RCTs, suggests this HDT approach has larger effect sizes than found in the studies of more traditional tutoring programs described above (see Baye et al., 2019; Cook et al., 2015; Dietrichson et al., 2017; Freyer, 2016; Fryer & Noveck, 2017; Nickow et al., 2020, 2024). Guryan et al.'s (2021) RCT research showed that HDT positively impacts adolescents as well as elementary students, thus arguing that HDT is an effective, and cost-effective K-12 strategy for improving academic outcomes for students at all levels. Robinson and Loeb (2021) provide additional research on the significant, positive effects of HDT. Kortecamp and Peters (2023) report on an effective RCT of tutoring for early readers. Cortes et al. (2024) document the impressive results of a scalable, high dosage tutoring program for reading in elementary schools. The Illinois Tutoring Initiative (2024) found that students who received high dosage tutoring made significantly larger gains in reading and mathematics during the 2022-23 school year than those who did not receive tutoring. Importantly, the evaluation also found that students with disabilities and ELL students who experienced tutoring produced even larger gains in reading and math scores, on both the Illinois state test and local assessments. Further, Lee et al. (2024) found the high dosage tutoring increased student attendance, thus amplifying the effect of high dosage tutoring itself on student achievement. The study underscored the dual positive impacts of high dosage tutoring.

Scaling such programs is complicated. Kraft and Falken (2021) and White et al. (2023) synthesize the research on the factors associated with effective implementation of tutoring, particularly high dosage tutoring. Drawing on this and other research, Makori et al. (2024) outline how the country could scale up HDT programs: the concepts and ideas these analysts put forth could also be adopted by a state, such as Wyoming. Careful attention needs to be given to scaling, as Kraft et al. (2024) outline, or the results will be less than expected.

Kraft et al. (2024) report that by December of 2022, 37% of schools in the country reported offering high dosage tutoring, and 59% of schools provided some type of tutoring, high dosage or "standard" tutoring. These data suggest that tutoring has become a key part of the educational landscape and critical for both enhancing the ability of all students to learn to standards and reducing learning loss caused by the pandemic.

Creating a corps of HDT tutors could be one powerful strategy for making up for the loss of learning caused by COVID and, going forward, simply providing extra help for students struggling to meet performance standards, Further, this approach to tutoring could be funded by the tutoring resources included in the EB Model. HDT tutors hopefully could boost achievement by significant amounts for any group of students achieving below expectations. We recommend Wyoming and other states adopt it as an effective and efficient strategy.

In addition to the one core tutor position provided to every prototypical school discussed above for Element 8, the EB Model provides additional tutor/Tier 2 interventionist positions at the rate of one for every 100 at-risk students.

27. At-Risk Pupil Support

Core pupil support positions for guidance counselors and nurses are discussed above in core resources as Element 10. At-risk students, however, generally have more non-academic needs that should be addressed by additional pupil support staff, which include additional counselors, as well as social workers, family liaison staff, mental health professionals, and psychologists. Thus, in addition to the core guidance counselor and nurse positions provided to every prototypical school discussed above for Element 10, the EB Model provides additional pupil support positions at the rate of one for every 100 at-risk students.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 at-risk pupil support position for every 125 at-risk students.	Provide 1.0 at-risk pupil support position for every 100 at-risk students. Not provided for small or alternative schools.	Provide 1.0 at-risk pupil support position for every 100 at-risk students.

Summary and Recommendation: Core pupil support positions for guidance counselors and nurses are discussed in Element 10 above in the core staffing section. At-risk students, however, generally have more non-academic needs that should be addressed by additional pupil support staff. This can include additional counselors, social workers, family liaison staff, mental health professionals and psychologists.

Students' social and emotional conditions began to deteriorate around 2012, with the advent of social media, and worsened during the pandemic. The need for additional pupil support personnel, including mental health professionals, emerged in all 2025 professional judgement panels. In addition to private and group counseling sessions, addressing these needs usually requires interactions with families and parents. Indeed, the Ed Trust argues that effective school, family and community engagement can result in increased student attendance, boost student academic performance, incentivize more robust career aspirations, reduce mental health issues and dropout rates, *and*, when done at the early elementary grades, can be more strongly correlated with student academic success than family income.

In terms of level of resources, the more disadvantaged the student body, the more comprehensive the strategy needs to be, a reality recognized by the EB Model's resources for these activities. The EB Model provides additional pupil support staff at the ratio of one additional pupil support position for every 100 at-risk students, so the greater the number of at-risk students in a school, the greater the additional pupil support staff.

Evidence and Recommendation

Core pupil support positions for school counselors and nurses are discussed in Element 10. At-risk students, however, generally have more non-academic needs that must be addressed by additional pupil support staff, which include additional school counselors, as well as social workers, family liaison staff, mental health professionals and psychologists. Students' social and emotional conditions worsened during the pandemic further bolstering the need for those services in many schools.

ELL students and students from low-income backgrounds, and many other students traumatized by the COVID pandemic, tend to have a multiplicity of non-academic needs that schools should address. This usually requires interactions with families and parents as well as more counseling in school. Research shows that schools with a higher concentration of at-risk students often have fewer and often less supportive school/family/community interactions even though the need for these interactions is greatest in such schools (Wriston & Duchesneau, 2024). As a result, the greater the concentration of at-risk students, the more intensive these family and student outreach efforts need to be. The EB Model addresses this by providing additional pupil support staffing resources based on the counts of at-risk students that include students from low-income backgrounds, ELL students and mobile students.

In the late 1990s, and early 2000s, various comprehensive school designs suggested multiple ways schools could provide more intensive family and student outreach programs (Stringfield et al., 1996; for further discussion, see Brabeck et al., 2003). More recently, the Ed Trust and The National Association for Community and Family Engagement have provided guidelines for designing and implementing effective school, community and family engagement programs. In terms of level of resources, the more disadvantaged the student body, the more comprehensive the strategy needs to be, a reality recognized by the EB Model's resources for these activities.

According to the Ed Trust, effective school, family and community engagement can improve student attendance, boost student academic performance, incentivize more robust career aspirations, reduce mental health issues and dropout rates, *and*, when done at the early elementary grades, can be more strongly correlated with student academic success than family income (Wriston & Duchesneau, 2024). As we describe below, there are many ways schools can ensure that students, families, and communities remain engaged, including home visits and community walks; at its core, meaningful engagement is about building personal relationships, trust, and mutual respect among students, educators, families, and communities.

Although there are multiple ways schools can and often do provide outreach to parents or involve parents in school activities – from fund raisers to governance – research shows school sponsored programs that have an impact on achievement address what parents can do at home to help their children learn. For example, parent outreach that explicitly and directly addresses what parents can do to help their children be successful in school, and to understand the standards of performance that the school expects, are the types of school-sponsored parent activities that produce discernible impacts on students' academic learning (Steinberg, 1998).

At the secondary level, the goal of parent outreach programs is to have parents learn about what they should expect of their children in terms of course taking and academic performance. If a district or a state requires a minimum number of courses for graduation, those requirements should be made clear. Secondary schools need to help parents understand how to more effectively assist their children to identify an academic pathway through middle and high school, understand standards for acceptable performance, and be aware of the course work necessary for high school graduation and college entrance. If either an average score on an end-of-course examination or a cut-score on a comprehensive high school test is required for graduation, they too should be discussed. This is particularly important for parents of students in the middle or lower end of the achievement range, as often these students know very little about the requirements for transition from high school to postsecondary education (Kirst & Venezia, 2004).

At the elementary level, the focus for parent outreach and involvement programs should concentrate on what parents can do at home to help their children learn academic work from school. Too often parent programs focus on fund raising through parent-teacher organizations, involvement in decision making through school site councils, or other non-academically focused activities at the school site. Although these school-sponsored parent activities might impact other goals – such as making parents feel more comfortable at school or involving parents more in some school policies – they have little effect on student academic achievement. Elementary student parent actions that impact student learning would include: 1) reading to them at young ages, 2) discussing stories and their meanings, 3) engaging in conversations with open ended questions, 4) setting aside a place where homework can be done, and 5) ensuring that their child completes all homework. Recent research shows that simply *texting* these activities to parents can result in improved student performance (Smith, 2021).

Given the changes in how students are assessed and graded, another important school outreach activity includes strategies for how to communicate grades and student assessment results to parents, and how parents can support students in response to those data (Levitan & Munyan-Penne, 2024). Most parents are familiar with the typical letter grades of A, B, C, D and F, but reporting student scores relative to various level of performance – Below Basic, Basic, Proficient and Advanced, in relation to a variety of curriculum standards, and linking that to the old letter grades or college admission requirements – is not straight forward and needs careful attention, definition, and planning.

For actionable guidance on how educators can create strong school, family and community partnerships, schools can reference a series of guidebooks created by the Alliance for Resource Equity[30] – a partnership between the Ed Trust and Education Resource Strategies. The Alliance provides multiple tools for using school dollars in the most effective and efficient manner. The guidebooks they have developed provide concrete suggestions for creating effective school and family partnership and engagement strategies, but also have suggestions for creating effective, equitable and mission driven school cultures. The resources needed to deploy these strategies are provided in the EB Model.

[30] https://educationresourceequity.org/

Moreover, the resources in the EB Model are adequate to create and deploy the ambitious and comprehensive parent involvement and outreach programs that are part of two, earlier comprehensive school designs: Success for All Program and the Comer School Development Program. The Success for All Program includes a family outreach coordinator, a nurse, a social worker, a counselor and an education diagnostician for a school of about 500 students. This group functions as a parent outreach team for the school, serves as case managers for students who need non-academic and social services, and usually includes a clothing strategy to ensure all students, especially in cold climates, have sufficient and adequate clothes, and coats, to attend school.

The Comer School Development Program was created on the premise of connecting schools more to their communities. Its Parent-School team has a somewhat different composition and is focused on training parents to raise expectations for their children's learning, to work with social service agencies and to work with the school's faculty to raise their expectations for what students can learn. Sometimes the team co-locates on school site premises to provide a host of social services. The need for robust family outreach programs and the efficacy of the Comer designed School Development Program today was reinforced by Linda Darling Hammond and colleagues (2019) who argued that the program is as relevant in current times as when it was created in the late 1990s.

A program called Communities in Schools (www.communitiesinschools.org), which now operates in 26 states and the District of Columbia and can be resourced by the additional staffing provided by this element, has been successful in raising school attendance rates, a precursor to improved student academic performance. The program adds a caseworker, often trained in social work, to a school's pupil support team to help match social services provided by non-educational agencies to students who need them. KIPP Charter schools also have robust parent involvement strategies, which also can be supported by these extra pupil support resources.

These additional pupil support staff can also be used to provide some of the mental health services educators in several states increasingly argue many students need. At the Professional Judgment Panels, we conducted over the past several years in Maryland, Michigan, Vermont and Wyoming in 2020 and even more so in 2025, one of the overwhelming findings was the increasing need for staff to meet the social, emotional, and mental health needs of students and their families. The COVID pandemic and the changes required to maintain personal physical and mental health further increased the need for school staff to help students and their families cope with a wide range of challenges, including mental health challenges. Levenson (2017) identifies ten best practices schools can deploy to provide a range of social and emotional supports for students, all of which can be provided by the pupil support resources provided by the EB Model, both the core pupil support resources and the additional resources provided by at-risk pupil counts. Finally, the Education Commission of the States has outlined how states can support the mental health issues of students (e.g., Slease, 2025) and track state laws that have mandated mental health education in schools.

In recognizing all these non-academic needs of students, the EB Model provides additional pupil support staff at the ratio of 1.0 additional pupil support position for every 100 at-risk students.

28. Extended-day programs

At both elementary and secondary school levels, some struggling students are likely to benefit from after-school or extended-day programs, even if they receive Tutoring/Tier 2 interventions during the regular school day. Extended day programs are an environment for children and adolescents to spend time after the school day ends but during the regular school year.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 teacher position for every 120 at-risk students. Provide resources outside the block grant as a categorical grant.*	For both extended-day and summer school programs, funding was rolled into the block grant and provides a 0.15 teacher FTE for every 30 at-risk students. Not provided for small or alternative schools.** A minimum 0.50 FTE is provided for school districts that do not generate that amount based upon the district's at-risk count. Prior 2017, the funds were a categorical grant program.	Provide 1.0 teacher position for every 120 at-risk students. Provide resources outside the block grant as a categorical grant.*

*This formula equates to funding for one teacher position for every 30 at-risk students or 4.0 teacher positions per 120 at-risk students, paid at the rate of 25% percent of a teacher's annual salary, enough to pay a teacher for a two-hour extended-day program, five days per week.
**This equates to 0.6 FTE for every 120 at-risk students.

Summary and Recommendation: Extended-day programs provide environments for children and adolescents to spend time in school *after* the regular school day ends, but during the *regular school year*. Reviews of research have found that well designed and administered after-school programs yield numerous improvements in academic and behavioral outcomes. Long term studies of the 21st Century Community Learning Centers Program found it produced significant, positive impacts on student academic performance. McCombs et al. (2017) reviewed multiple studies of after school programs found positive effects on both behavioral and academic outcomes if the eligible students actually attended the programs and the programs had an academic focus. Since then, multiple studies and several research reviews have documented positive effects of extended-day programs on the academic performance, as well as behavioral outcomes of students who participated in select after-school programs. Both program quality (e.g., teacher qualifications) and student attendance impact results – students who regularly attend academically oriented after school programs experience the largest positive academic results. Further, guidance from the U.S. Department of Education on evidence-based uses of ESSER III (COVID) funds identified structured after school programs, like those that have the features identified by the EB Model. To work, such programs need qualified staff, small group size, a focus on academics, a culture of mastery, consistent student participation and funding for the long term.

The EB Model provides for a year-long after-school program. It provides resources for a fully certified teacher to serve 15 at-risk students each day for two hours and be paid an additional 25% of salary. The EB Model also assumes half of the at-risk students will participate in the program, so a school with 120 at-risk students would receive funding for four individuals to serve 60 students after school in groups of 15 for two hours (25% FTE) a day. Simplified, the EB Model provides one teacher position for every 120 at-risk students.

Evidence and Recommendation

Extended-day programs provide environments for children and adolescents to spend time in school *after* the regular school day ends, but during the *regular school year*. Reviews of research found that well designed and administered after-school programs yield numerous improvements in academic and behavioral outcomes (Fashola, 1998; Peterson & Vandell, 2021; Posner & Vandell, 1994; Vandell et al., 2005).

In 2005, the first year evaluation of the 21st Century Community Learning Centers Program (James-Burdumy et al., 2005), an RCT, cast some doubt on these positive findings. Though hotly debated, the initial results indicated that for elementary students, extended-day programs did not appear to produce measurable academic improvement. Critics of this study (e.g., Vandell et al., 2005) argued the control groups had higher pre-existing achievement, which reduced the potential for finding program impact. Critics also argued the small impacts identified had more to do with the lack of full program implementation during the initial years than with the strength of the program. However, subsequent analyses of the 21st Century learning centers found that, over a longer, multiple-year period, this program was effective and did produce significant, positive impacts on student academic performance (Peterson, 2013; Weiss, 2013).

Studies of two statewide programs, one in Massachusetts and the other in Florida, found extended-day programs had modest or no significant effects on student academic programs (Checkoway et al., 2013; Folsom et al., 2017). But Auger et al. (2013) found that participation matters, and that low-income students who consistently participated in an after school elementary program caught up to other students in 5th grade mathematics. Kraft (2015) describes how individual tutoring programs in extended-day programs can have significant impacts on student learning.

In a review of the effects of multiple extended-day programs, McCombs et al. (2017) further support the efficacy of after school programs as well as the key structural elements discussed below. The study concluded that academically oriented after-school programs positively impact student performance in the subjects addressed. Vandell et al. (2022) found that students participating in high quality after-school programs combined with participation in extracurricular activities were reported by teachers to have higher academic performance, work habits, and task persistence, and less aggression.

In sum, multiple studies and several research reviews have documented positive effects of extended-day programs on the academic performance as well as behavioral outcomes of students

who participated in select after-school programs (e.g., Vandell et al., 2022; Wu, 2020). Both program quality (e.g., teacher qualifications) and student attendance impact results – students who regularly attend academically oriented after-school programs experience the largest positive academic results.

Further, guidance from the U.S. Department of Education for evidence-based uses of ESSER III (COVID) funds identified structured after-school programs, like those that have the features identified below, as one such program. In a related handbook, Peterson and Vandell (2021) further review the substantial evidence of the impact of after-school programs on student academic learning and identify the structural features of the after-school programs that work. Those structural features are very similar to those the EB Model has identified for several years. These conclusions and recommendations further support the EB Model's after school resources.

After school, extended day programs can help improve student learning but it depends on multiple features of the programs, and the participation behaviors of students. In practical terms, program evaluators have identified several structural and institutional supports necessary to make after-school programs effective:

- 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).
- A program *culture of mastery* (i.e., having students engage in activities to become more proficient and/or to meet various standards of performance).
- Consistent participation in a structured program.
- 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).

The EB Model includes resources for an extended-day program for all school prototypes to meet these structural supports. The resources can be used to provide students in all elementary and all secondary grades with additional help during the school year, but *after* the normal school day, to meet academic performance standards.

Because not all at-risk students will need or will attend an after-school program, the EB Model provides extended-day resources for half of the at-risk students in a school. This reflects a need and participation rate identified by Kleiner et al. (2004). More recent data generally confirm the assumption that not all students who need an after-school program will attend one. NCES (2023) found that 64% of schools across the country provided after school programs with an academic emphasis. Licensed teachers tended to work in the programs. The study also found, however, that

only about 22% of students eligible for the programs participated in them, although the study did find that the participation rate was slightly higher for students in urban schools serving students of color.

The EB Model provides for a year-long after-school program. It provides resources for a fully certified teacher to serve 15 at-risk students each day for two hours and be paid an additional 25% of salary. The EB Model also assumes half of the at-risk students will participate in the program, so a school with 120 at-risk students will receive funding for four individuals to serve 60 students in groups of 15 for two hours (25% FTE) a day. Simplified, the formula equates to one teacher position for every 120 at-risk students.

29. Summer School

Many students need extra instructional time to achieve the state's high proficiency standards. Thus, summer school programs should be part of the set of programs available to provide struggling students the additional time and help they need to achieve standards and earn academic promotion from grade to grade (Borman, 2001). Providing additional time to help all students master the same content is an initiative that is grounded in research (National Education Commission on Time and Learning, 1994). It should be noted that summer school services are provided during the summer months so outside of the regular school year.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 teacher position for every 120 at-risk students. Provide resources outside the block grant as a categorical grant.*	For both extended-day and summer school programs, funding was rolled into the block grant and provides a 0.15 teacher FTE for every 30 at-risk students. Not provided for small or alternative schools.** A minimum 0.50 FTE is provided for school districts that do not generate that amount based upon the district's at-risk count. Prior 2017, the funds were a categorical grant program.	Provide 1.0 teacher position for every 120 at-risk students. Provide resources outside the block grant as a categorical grant.* In addition, $50 per eligible at-risk student for program materials, subject to the ECA.

*This formula equates to funding for one teacher position for every 30 at-risk students (assuming only half will attend so a class size of 15) or 4.0 teacher positions per 120 at-risk students, paid at the rate of 25% percent of a teacher's annual salary, enough to pay a teacher for an 8-week summer school program, five days per week.
**This equates to 0.6 FTE for every 120 at-risk students.

> **Summary and Recommendation**: Evidence dating back many decades shows students, on average, lose a little more than a month's worth of skill or knowledge over the summer break. Summer breaks have a larger negative impact on low-income children's reading and mathematics achievement. This loss can reach as much as one-third of the learning during a regular nine-month school year. Studies show these 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.

Cooper et al.'s 2000 meta-analysis of 93 summer school programs found the average student in summer programs outperformed about 56 to 60% of similar students not receiving the programs. Since then, several RCTs of summer school reached positive conclusions about how summer programs can positively impact student learning. The studies also show that students who attend summer programs for longer times experienced larger gains in reading and math scores than students who attended for less than four weeks. In 2018, the National Academy of Sciences (2019) convened a panel of top experts to review the evidence of the impacts of summer experiences on child and adolescent development. Their first conclusion was quite definitive: 6-8 week summer experiences, appropriately designed, have significant, positive effects on cognitive, social, and physical development.

The EB Model provides resources for a program of eight weeks in length with a six-hour day. This allows for at least four hours of instruction in core subjects and for up to two hours of non-academic activities each day. The formula for staffing summer school programs equates to one teacher position serving 15 students and paid at 25% of annual salary or 4.0 FTE teachers per 120 at-risk students (assuming only half or 60 of the 120 students are estimated to enroll in summer school). This position is paid at the rate of 25% of the annual teacher salary. The EB Model also provides $50 per at-risk student for program costs.

Evidence and Recommendation

Evidence dating back to 1906 shows students, on average, lose a little more than a month's worth of skill or knowledge over the summer break (Cooper et al., 1996). Summer breaks have a larger deleterious impact on low-income children's reading and mathematics achievement. This loss can reach as much as one-third of the learning during a regular nine-month school year (Cooper et al., 1996). A longitudinal study by Alexander and Entwisle (1996) showed these 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. As a result of this research, there has been a consensus for decades that what happens (or does not happen) during the summer can significantly impact the achievement of students from low-income and at-risk backgrounds (see Heyns, 1978). Further, summer school programs were identified as one evidence-based use of COVID funds to help students regain learning loss from the pandemic (Peterson & Vandell, 2021).

A meta-analysis of 93 summer school programs (Cooper et al., 2000) found the average student in summer programs outperformed about 56 to 60% of similar students not receiving the programs. However, the certainty of these conclusions was compromised because only a small number of studies used random assignment, and program quality varied substantially (Borman et al., 2001; Borman & Boulay, 2004).

RCTs of summer school reached more positive conclusions about how summer programs can positively impact student learning (Borman & Dowling, 2006; Borman et al., 2009). Roberts (2000) found an effect size of 0.42 in reading achievement for a randomized sample of 325 students who participated in the Voyager summer school program. A 2016 RCT of summer school, found that summer programs that focused on academics, provided small classes of 15, and lasted for several weeks, produced significant positive impacts on elementary student academic achievement (Augustine et al., 2016). Not surprisingly, the study found that students who attended these summer programs for longer times experienced larger gains in reading and math scores than students who attended for less than four weeks. A more recent meta-analysis of summer programs that specifically addressed math achievement found positive impacts on student performance (Lynch et al., 2022).

Researchers (Browne, 2019; McCombs et al., 2011; Peterson & Vandell, 2021; Pitcock & Seidel, 2015) noted several program components related to improved achievement effects for summer program attendees, including:

- 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,
- Careful scrutiny for treatment fidelity, including monitoring to ensure good instruction in reading and mathematics is being delivered, and
- Monitoring student attendance.

Summer programs that include these elements hold promise for improving the achievement of at-risk students and closing the achievement gap. For example, Kim and Quinn's (2013) meta-analysis of 41 school- and home-based summer school programs found students in kindergarten through grade 8 who attended summer school programs with teacher directed literacy lessons showed significant improvements in multiple areas including reading comprehension. Moreover, the effects were much larger for students from low-income backgrounds. Browne (2019) found that voluntary summer school programs in five large districts, with class sizes of 15 and that provided both academics and enrichment, increased student test scores the next year 20-25% of the typical annual gain for frequent attenders but smaller gains for those students who were not frequent attenders. About 60% of program participants were frequent attenders. One implication, clearly, is to enhance strategies to get more students to attend summer school more often. Borman et al. (2020) found similar significant impacts on student's reading performance, for a replicable summer reading program, Kids Read Now, with the effect size rising to 0.19 for students who read the most books over the summer.

A comprehensive book on the "summer slide," written by several of the analysts cited above, expands on these points (Alexander et al., 2016). The book describes what is known about

learning loss over the summer and what can be done to prevent it. The authors' suggestions for how to structure effective summer school programs echo the recommendations above.[31]

Callen et al. (2025) studied the impact of summer programs in several school districts that were created as a strategy to improve learning loss caused by the COVID pandemic. The findings were modest: small impacts on mathematics performance but no impact on reading. However, the study included students who attended for just one day, as well as those who attended for the entire summer school period; clearly, those who barely attended would be unlikely to have improved math or reading achievement. The programs themselves also varied, from providing only a small amount of academic instruction to providing several hours a day of academic instruction. Students who received little academic instruction, even with high attendance, would not likely improve achievement scores substantially. In other words, the study did not assess the impact of structured summer school programs in the districts. The study could more appropriately be termed a study of "natural variation" in summer school experiences, and "natural variation" studies usually produce modest if any positive results. The findings from this study should not be interpreted to mean summer school programs do not work, but rather as other research shows, to work, summer school programs need the core elements discussed above: a 6–8-week program, several hours a day of academic instruction, and high student attendance.

In 2018, the National Academy of Sciences convened a panel of top experts to review the evidence of the impacts of summer experiences on child and adolescent development (National Academy of Sciences, 2019). Their first conclusion was quite definitive: summer experiences, appropriately designed, have significant effects on cognitive, social, and physical development. The second conclusion was that summer experiences were unequally distributed and that children from low-income backgrounds were most in need of such experiences. Further, guidance from the U.S. Department of Education for evidence-based uses of ESSER III (COVID) funds identified summer school programs, like those that have the features identified above, as one such program. In a related handbook, Peterson and Vandell (2021) further reviewed the substantial evidence of the impact of summer school programs on student academic learning and noted the structural features of the summer school programs that work; and those structural features are very similar to those the EB Model has identified for several years. These conclusions and recommendations further support the EB Model's summer school resources.

Because summer school can produce powerful impacts, the EB Model provides resources for summer school for classes of 15 students, for 50% of all at-risk students in all grades K-12. This reflects a need and participation rate identified by (Capizzano et al., 2002). More recent data generally confirm the assumption that not all students who need a school program will attend them. NCES (2023) found that 78% of schools across the country provided summer school programs with an academic emphasis in summer 2023. Licensed teachers tended to work in the programs. The study also found that only about 19% of students who had the opportunity to attend the programs did so, although the participation rate was higher for students in urban schools serving students of color.

[31] Lynch and Kim (2017) report that an RCT of an *on-line* summer school program for mathematics had no impact on student learning but could not determine whether it was the on-line curriculum itself, or some other programmatic element – like monitoring of students engaging in the online instruction – that diminished the impact.

The EB Model provides resources for a program of eight weeks in length with a six-hour day. This allows for at least four hours of instruction in core subjects. A six-hour day also allows for up to two hours of non-academic activities each day. The formula for staffing summer school programs equates to one teacher position serving 15 students and paid at 25% of annual salary or four teachers per 120 at-risk students (recall that only half or 60 of the 120 students are estimated to enroll in summer school). This position is paid at the rate of 25% of the annual teacher salary. Simplified, the formula equates to one full time teacher position for every 120 at-risk students. The EB Model also provides $50 per at-risk student for program costs.

As the discussion to this point shows, the EB Model's resources for at-risk students are a sequenced set of connected and structured programs that begin in the early elementary grades and continue through the upper elementary, middle, and high school levels. The EB Model provides resources so that the most academically deficient at-risk students receive Tier 2 interventions that include tutoring, an extended-day program with an academic focus, and a summer school program that is structured and focused on academics. ELL students receive all of these services *as well as* the additional ELL resources discussed in the next section. Further, these enhanced instructional resources are supplemented by additional pupil support staff (Element 27) as well.

30. English Language Learner (ELL) Students

Research, best practices and experience show that ELL students need assistance to learn English, in addition to instruction in the regular content classes. This can include some combination of PD for teachers to help them teach "sheltered" English classes, English as a second language classes, and "reception" centers for districts with large numbers of ELL students who arrive as new immigrants to the country and the school throughout the year.

ELL is a separate program from the at-risk programs described above in the sections on tutors, extra pupil support, extended day and summer school. Funding is provided for *all* ELL students for these additional services.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Provide 1.0 ELL teacher position for every 100 identified ELL students.	Provide 1.0 teacher position for every 100 identified ELL students. Not provided for small or alternative schools.	Provide 1.0 teacher position for every 100 ELL students. In addition, $50 per eligible at-risk student for program materials, adjusted by the ECA.

Summary and Recommendation: Regardless of the evidence on the effectiveness of bilingual education, it is difficult if not impossible to provide bilingual education in most schools today because students come from multiple language backgrounds. And even if teachers could be found with multiple language proficiencies, it would be impossible to use a bilingual approach if there were multiple non-English languages spoken by students in the class, the situation in most schools today. Consequently, many schools have

adopted the Sheltered English approach, and the EB Model argues that all schools with ELL students should adopt the Sheltered English approach.

Sheltered instruction is an approach to teaching ELL students that integrates language and content instruction. Sheltered instruction has two prime goals: to provide access to mainstream, grade-level content, and simultaneously to promote the development of English language proficiency, including the academic language specific to the content area. One specific sheltered English approach is the Sheltered Instruction Observation Protocol (SIOP) Model. SIOP is a research-based and validated instructional model that has proven effective in addressing the academic needs of English learners throughout the United States. The Sheltered English approach does not cost anymore as it requires just one teacher, but a teacher skilled in using Sheltered English.

Providing a classroom aide that speaks some of the languages of the ELL students does not result in improved student performance. And co-teaching ELL classes is not cost-based because, even if it works (and it often does not work), it is twice as expensive as it requires two teachers.

The EB Model provides 1.0 teacher position for every 100 ELL students, plus $50 per ELL student for program materials. Given this, it is important to understand that the EB Model provides all ELL students with additional language resources ***as well as*** tutoring, additional pupil support, extended day, and summer school.

Evidence and Recommendation

Good ELL programs work, whether the approach is structured English immersion (sometimes called sheltered English) or initial instruction in the native language, often called bilingual education (Clark, 2009). Bilingual programs have been studied intensively. A best-evidence synthesis of 17 studies of bilingual education (Slavin & Cheung, 2005) found ELL students in bilingual programs outperformed their non-bilingual program peers. Using studies focused primarily on reading achievement, the authors found an effect size of +0.45 for ELL students. A 2011 RCT also produced strong positive effects for bilingual education programs (Slavin et al., 2011) but concluded the language of instruction was less important than the approaches taken to teach reading.

Addressing the important issue of learning to read in *The Elementary School Journal,* Gersten (2006) concluded ELL students can be taught to read in English if, as shown for monolingual students, the instruction covers phonemic awareness, decoding, fluency, vocabulary and reading comprehension, in other words, follows the current science of reading instruction discussed in Element 17. Gerste
n's studies also showed ELL students benefit from instructional interventions initially designed for monolingual English-speaking students, the resources for which are included in the four at-risk student triggered programs: tutoring, extended-day, summer school and pupil support. The positive impacts of a recent RCT of a Spanish literacy tutoring program reinforce this assertion (Borman et al., 2024).

Bilingual education is difficult to provide in most schools today because students come from multiple language backgrounds, and it is difficult to find teachers who are fluent in the many languages represented by small groups of students. And even if teachers could be found with such language proficiency, it would be impossible to use a bilingual approach if there were multiple non-English languages spoken by students in the class, the situation in most schools today. Consequently, many schools have adopted the Sheltered English approach. The EB Model argues that all schools with ELL students should adopt the Sheltered English approach. Thus, the EB Model uses the Sheltered English model for estimating ELL resources in schools.

Brown University's Education Alliance Project defines sheltered instruction as an approach to teaching ELL students that integrates language and content instruction. Sheltered instruction has two prime goals: to provide access to mainstream, grade-level content, and to promote the development of English language proficiency, including the academic language specific to the content area (The Education Alliance, 2020). Sheltered English instruction combines subject matter instruction with language learning, ensuring that students engage with both the content and the language simultaneously. Teachers adjust their speech, use visuals, and incorporate hands-on activities to enhance understanding. Teachers also incorporate students' backgrounds and experiences to make learning more relatable and effective.

One specific sheltered English approach is the Sheltered Instruction Observation Protocol (SIOP) Model. SIOP is a research-based and validated instructional model that has proven effective in addressing the academic needs of English learners throughout the United States. The SIOP Model consists of eight interrelated components: lesson preparation, interaction, building background, practice and application, comprehensive input, lesson delivery, strategies and review and assessment [for more detail, see Echevarria et al. (2017); Echevaria and Short (2022)]. Three studies by Short et al. (2011) found that students with teachers who were trained in the SIOP Model of sheltered instruction and implemented it *with fidelity* performed significantly better on assessments of academic language and literacy than students with teachers who were not trained in the model, underscoring the importance of PD in implementing this instructional approach. Further, Le and Polikoff (2020) found that schools that adopted specific English language development curriculum produced larger impacts on students' English proficiency, suggesting that English language development needs to be a structured and systemic aspect of instruction for ELL students.

In focus groups we conducted as part of EB studies in several states, many educators also argued that sheltered instruction represents high-quality, effective instruction and is effective not only for ELL students but also all students, and particularly non-ELL students, at-risk students (e.g., Odden & Picus, 2018). This suggests training all teachers in Sheltered English instruction can have the side benefit of improving the performance of all students, not just ELL students.

For Sheltered English instruction, districts and schools of education should provide PD and training for the pedagogical skills needed by teachers to implement this approach. The EB Model has recommended the Sheltered English approach for two decades and includes substantial PD resources to aid in its implementation. Indeed, given the prevalence of ELL students from scores of countries across U.S. schools, as well as the nearly 50% of students from low-income

backgrounds, Sheltered English instruction would be an appropriate instructional strategy in most classrooms in America, as well as Wyoming.

Providing a classroom aide that speaks some of the languages of the ELL students does not result in improved student performance. And co-teaching classes with ELL students is not cost-based. Sheltered English programs, by being cost-based, supersede the practice in many districts of having two teachers provide instruction to a class of ELL students – one content knowledgeable teacher speaking English, and a second teacher who has expertise in the second language represented in the classroom, but often does not know the content. Co-teaching, moreover, is twice as expensive as Sheltered English instruction and, even if it were effective, would not be cost-based because of its high cost (District Management Group, 2020).

In addition to being the most cost-effective general structure for providing instruction to ELL students, research shows ELL students need a solid and rigorous core curriculum as the foundation on which to provide both core instruction and any extra services (Gandara & Rumberger, 2008; Gandara et al., 2003). This research suggests ELL students need (and the EB Model provides):

- Effective teachers – a core goal of all the staffing in the EB Model.
- Adequate instructional materials and good school conditions.
- Good assessments of ELL students so teachers know in detail their English language reading and other academic skills.
- Less segregation of ELL students.
- Rigorous and effective curriculum and courses for all ELL students, including college and career ready, and affirmative counseling of such students to take those courses.
- PD for all teachers, focused on sheltered English teaching skills as well as the content and pedagogical content knowledge needed for teaching any subject.

Torff and Murphy (2020) emphasize these important points by arguing that a major reason for the ELL achievement gap is that ELL students often are not offered a rigorous curriculum, even when it is recommended as appropriate. And when used, teachers often choose less rigorous activities and expectations when teaching ELL students. The result, not surprisingly, is lower ELL academic achievement. Torff and Murphy argue this creates a self-fulfilling prophecy: ELL students receive less than rigorous instruction, which limits their performance, which justifies the lower expectations, all the while non-ELL students receive more rigorous instruction and achieve at a higher level.

The solution, Torff and Murphy argue, is knowing the difference between the academic demands of a curriculum and the linguistic demands – and then for teachers to provide the linguistic supports that allow the ELL students to meet the same rigorous achievement standards in all content areas as other, native English-speaking students. This is also the approach and goal of Sheltered English instruction. Teachers need to teach both academic content and the academic language that is part of that content, which is a more demanding challenge for ELL students. Intensive PD is needed to help teachers acquire these language support skills.

Educators know that ELL students from lower income and less educated backgrounds struggle most in school and need extra help to learn both academics, regular English and content-related academic English. The EB Model addresses this need by ensuring the ESL resources triggered by ELL counts are *in addition to* other Tier 2 intervention resources including tutoring, pupil support, extended day and summer school.

The EB Model provides one teacher position for every 100 ELL students. These resources are in addition to the at-risk resources for tutors, pupil support, extended day, and summer school for all ELL students. Specifically, the EB Model provides one teacher position for every 100 ELL students for tutoring, one teacher position for every 100 ELL students for extra pupil support, one teacher position for every 120 ELL students for summer school, one teacher position for every 120 ELL students for extended day programming, *and in addition*, one teacher position for every 100 ELL students for additional language support. This represents a robust set of additional resources beyond core staff for ELL students.

31. Alternative Schools

Alternative schools are secondary schools (usually but always high schools) that provide educational as well as other services, such as counseling for students who have been unable to succeed in regular school settings. They are typically small schools with no more than approximately 50 students and campuses often located in a corner of a larger school building, or close by in a separate facility. Since 2015 the Wyoming EB Model has recommended resourcing these schools exactly the same way as all other schools based on their ADM, assuming that most would be resourced as a small school with 49 or fewer ADM.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
No separate formula: assumes all alternative schools have 49 or fewer students and thus qualify for the small school formula of 1 AP plus 1 teacher position for every 7 ADM.	Provide funding for all staff at a ratio of 1 AP and 1 teacher position for every 7 ADM.	No separate formula. Alternative schools are funded using the same approach as used for small schools if they have fewer than 50 ADM, specifically, one assistant principal position for all schools with fewer than 50 ADM, prorates all positions other than teachers and assistant principals below 50 ADM, and prorates the minimum number of teachers below 50 ADM with a minimum of one teacher position, using the minimum number of teachers generated by the highest grade band level of the small school – i.e the EB recommendation of 6 elementary; 7 middle school; and 9 high school teachers.

Summary and Recommendation: A small number of students have difficulty learning in the traditional school environment. The alternative learning environment (ALE) students this section addresses are those that have some combination of significant behavioral, social and emotional issues, often including alcohol or drug abuse. These students often do much better in small ALEs. It is important to note this rationale for an ALE does not consider alternative schools as a placement for students who simply prefer a different approach to learning academics, such as project-based learning, or more applied learning strategies similar to strategies that can be deployed in new CTE programs like computer assisted engineering. The EB Model conceptualizes alternative schools as schools for troubled youth who need counseling and therapy embedded in the school's instructional program. Our understanding is that the state's concept of the purpose of alternative schools aligns with the EB Model, but applies the current funding formula to all schools identified as "alternative," regardless of the number of students. In this instance, "alternative" schools with fewer than 50 ADM are funded in the same manner as any other high school with that number of ADM.

Evidence and Recommendation.

A small number of students have difficulty learning in the traditional school environment. The alternative learning environment (ALE) students this section addresses are those that have some combination of significant behavioral, social and emotional issues, often including alcohol or

drug abuse. These students often do much better in small ALEs. Alternative schools or alternative learning environments for these students are educational settings designed to meet the multiple and varied needs of students who struggle in traditional school settings. These schools often focus on providing a supportive environment that simultaneously addresses behavioral and emotional issues as well as academic challenges. The key characteristics of ALEs include the following:

- **Target Population:** Students with behavioral issues, learning disabilities, or those at risk of dropping out.
- **Curriculum:** Often includes IEPs and may integrate therapeutic support.
- **Teaching Approach:** Emphasizes smaller class sizes, personalized attention, and alternative teaching methods.
- **Goals:** Aims to improve academic performance, social skills, and emotional well-being.

It is important to note this rationale for an ALE does not consider alternative schools as a placement for students who simply prefer a different approach to learning academics, such as project-based learning, or more applied learning strategies similar to strategies that can be deployed in new CTE programs like computer assisted engineering. The EB Model conceptualizes alternative schools as schools for troubled youth who need counseling and therapy embedded in the school's instructional program. Our understanding is that the state's concept of the purpose of alternative schools aligns with the EB Model.

Alternative school funding approaches can also be used to fund "welcome programs" for students who have recently entered this country, often from an environment of refugee status, refugee camps, and who have had little access to formal schooling. As those programs are small, the current EB and Wyoming Funding Models formulas for small schools of one assistant principal position for all schools with fewer than 50 ADM, prorates all positions other than teachers and assistant principals below 50 ADM to a school size of 1 ADM, and prorates the minimum number of teachers below 50 ADM to a minimum of one teacher position, using the minimum number of teachers generated by the highest grade band level of the small school – i.e the EB recommendation of 6 elementary; 7 middle school; and 9 high school teachers is used.

One of the major issues states face in creating funding programs for alternative schools is defining them. Our 2010 review of literature and state practice on alternative education as described in our textbook (Odden and Picus, 2020) provided little guidance for developing a clear definition of alternative education. In 2014, as part of implementing its compulsory attendance laws, Maryland commissioned a study to review state definitions of ALE programs (see Porowski et al., 2014). Maryland needed a definition because attendance in an ALE program was an exemption in its compulsory attendance law and the state did not have a clear definition of such programs. The study found great variation across the states in both defining and structuring alternative education programs. Because individual states or school districts defined and determined the features of their alternative education programs, they tended to differ in key characteristics, including target populations, setting, services, and structure.

A formal definition of an ALE program would need to consider the target population (including both grade levels served and types of students), program setting (within a public school or

outside such a structure), program offerings (academic, behavioral, counseling, social skills, career counseling, etc.) and structure (how programs are scheduled, staff responsibilities, etc.). The Porowski et al. (2014) study found wide variation across states (and districts) across all of these elements.

We have concluded the Urban Institute's (Aron, 2006) definition of alternative education closely follows our understanding of alternative programs:

> Alternative education refers to schools or programs that are set up by states, school districts, or other entities to serve young people who are not succeeding in a traditional public-school environment. Alternative education programs offer students who are failing academically or may have learning disabilities, behavioral problems, or poor attendance an opportunity to achieve in a different setting and use different and innovative learning methods. While there are many different kinds of alternative schools and programs, they are often characterized by their flexible schedules, smaller teacher-student ratios, and modified curricula.

The Institute for Education Sciences at the United States Department of Education published statistics on alternative schools and programs for SY 2007-08 (Carver & Lewis, 2010). That study identified 558,300 students in 10,300 district-administered alternative education schools and programs across the United States. Although the report did not provide data on the size of these schools or on staffing ratios, the data suggest an average alternative school size of 54 students. Most of the programs served students in grades 9-12. The main reasons students were enrolled in alternative programs – all of which meet our initial definition of multiple emotional and/or behavioral problems – included:

- Possession or use of firearms or other weapons,
- Possession, distribution, or use of alcohol or drugs,
- Arrest or involvement with the criminal justice system,
- Physical attacks or fights,
- Disruptive verbal behavior,
- Chronic truancy,
- Continual academic failure,
- Pregnancy/teen parenthood, and
- Mental health needs.

A 2022 report by the Urban Institute (Kho & Rabovsky, 2022) found that there were about 640,000 students enrolled in alternative schools, as defined in this report, in the 1990s.[32] ALE school enrollment then increased by about 56%, peaking by 2012 at close to a million students. The study found that ALE then dropped a bit to about 800,000, about 1.6% of national enrollment, where it has hovered for several years. The study also found that ALE enrollments vary substantially by state, ranging from less than 0.1% in states such as Vermont, New

[32] Many studies and reports include charter schools, specialized schools for students with disabilities, or schools with a specific academic approach such as project-based learning, as alternative schools. The definition of alternative schools this report uses what is often called "typical" alternative schools and excludes charter schools and specialized schools for students with disabilities or with a particular academic approach.

Hampshire and Maine, to 7% in Delaware. The study found Wyoming's ALE enrollment to be at the low end, about 0.2% of overall enrollment.

In 2010, we also reviewed state standards – where they existed – for alternative schools (See the 2010 Recalibration Report), but we only identified one state, Indiana, that established standards for ALE programs, and those standards hold today. The Indiana Department of Education's (2025) website states:

> While each of Indiana's alternative education programs is unique, they share characteristics identified in the research as common to successful alternative schools.
>
> - Student to teacher ratio of 15:1 or less
> - Operate for a minimum of three continuous hours per day
>   - Instructional time requirements for students still apply
> - Clearly stated mission and discipline code
> - Caring faculty that have chosen to work in the alternative program
> - Continual staff development
> - High expectations for student achievement
> - Learning program tailored to the students' needs and learning style
>   - Each student must have an Individualized Service Plan (ISP) that guides the student toward academic and behavioral goals
> - Community involvement and support.

These characteristics align with the EB Model's view of ALE programs.

Funding formulas for alternative schools differ substantially (Griffith, 2019). In a few states, the typical staffing ratio for an alternative school is one administrative position for the school plus one teacher position for every so many students. Other states provide an extra dollar per pupil amount for each student enrolled in an ALE program. Still other states provide a weight for each ALE student. Many states have no specific funding formula for ALE students. Illinois provides a varying level of funding depending on the costs of different ALE programs.

Though Wyoming could consider developing a more formal definition of its ALE system, and a set of standards for ALE programs, it does not need to do so for funding purposes. The 2015 and 2020 EB Models do not have a specific alternative school formula for staff resources. Rather, the 2015 and 2020 EB Models funded alternative schools with 49 or fewer students via the small school formula that is part of that regular funding model approach.

For 2025, we have modified the approach for funding small schools with fewer than 50 ADM, and recommend small alternative schools be funded the same way as all other small schools, specifically with one assistant principal position for all schools with fewer than 50 ADM, prorating all positions other than teachers and assistant principals below 50 ADM, and prorating the minimum number of teachers below 50 ADM to a minimum of one teacher position, using the minimum number of teachers generated by the highest grade band level of the small school – i.e the EB recommendation of 6 elementary; 7 middle school; and 9 high school teachers For schools larger than 50 the EB Model relies on the EB Model elements described above.

32. Special Education

Wyoming has maintained a reimbursement model for special education since the late 1990s and despite numerous studies, the Legislature has not identified a formula option that it believes is preferable to the current reimbursement model. The latest study of special education in Wyoming was conducted by the District Management Group as part of our 2020 recalibration. The study identified several cost saving options for special education delivery but did not offer an alternative funding formula to replace the reimbursement approach in use then and now. Special Education was not a part of the 2025 recalibration study.

Additional Issues Related to the Wyoming Funding Model

There are several other issues related to the Wyoming Funding Model that are not individual elements of the EB Model, but integral aspects of costing the model. These issues include salary levels, health insurance, other fringe benefits, regional cost adjustments, and external cost adjustments.

33. Salary Levels

A major element in the overall cost of the Wyoming Funding Model is the salary and related benefit levels used to price each staff position in the model. In the 2005 recalibration, the Wyoming Legislature directed the analysis to establish model salaries and adjustments for experience, education and span of control, where appropriate, and use school district actual salaries from school year 2005-06. Over the past decade, Dr. Christiana Stoddard has monitored the factors that influence salaries over time and compared them to appropriate figures in the broader labor market. More specifically, Dr. Stoddard has compared the Wyoming Funding Model salaries and salaries paid by Wyoming school districts of various staff to average salaries of individuals with similar skills in the private (i.e., non-education sector). She specifically sought to determine whether the Wyoming Funding Model salaries and school district paid salaries were "at market" (i.e., at the same level of salaries in the private sector), with appropriate adjustments for the shorter education year. For several years, the Wyoming Funding Model salaries and school district paid salaries were above market, but that is no longer true.

Dr. Stoddard has computed new salaries for use in 2026-27. Her methods and salary estimates are included in her reports "Teacher Labor Markets in Wyoming" and "Labor Markets for Non-Teachers Employed by Wyoming K-12 School Districts", both of which are included in the appendix to this report.

34. Health Insurance

Health Insurance is a benefit provided to staff in the education system, just like it is provided as a benefit to all state workers. The issue is the approach to determining the cost of this benefit.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Compute a health insurance composite amount for each	Compute a health insurance composite amount for each	Compute a health insurance composite amount for each

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or children and family coverage for the State's health insurance contribution amounts paid on behalf of State employees as of January 1 of the preceding school year. No health insurance for summer school or extended day positions.	generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or children and family coverage for the State's health insurance contribution amounts paid on behalf of State employees as of January 1 of the preceding school year. For SY 25-26 the per FTE amount is $17,596.	generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or children and family coverage for the State's health insurance contribution amounts paid on behalf of State employees as of January 1 of the preceding school year. No health insurance for summer school or extended day positions.

Evidence and Recommendation.

Wyoming has taken a clear and substantive approach to addressing the costs of health insurance that is part of education staff compensation. Further, the EB and Wyoming Funding Models generally are in agreement on the approach to supporting health insurance. The agreement is that the state will support health insurance benefits for educators at the same level as for state employees. Specifically, the Wyoming Funding Model has included a dollar amount for health insurance benefits for each eligible employee. That dollar amount equals the average amount Wyoming provides for its State employees. The implicit signal is the State encourages school districts to provide health insurance support for every employee, just as the State does for its employees, and at the same rate as the state. This dollar amount is provided for every staff position in the EB Model except positions for summer school and extended day. The assumption is that staff providing summer school and extended day services are staff members working during the year and already have health insurance.

The amount for health insurance for each FTE has represented approximately 82% of health insurance costs and assumes employees – both State and local school district employees –pay the remaining 18%. Wyoming's policy on health insurance also includes a provision allowing any school district to opt into the State health insurance plan, the costs of which would be covered by the Wyoming Funding Model. The only additional stipulation is if a district opts into the State plan, then eligibility requirements to participate in the health insurance plan are no longer controlled by the school district, but by the State's plan and the school districts must adhere to the State's insurance requirements for participation. Generally, this makes more employees eligible for health care insurance.

The EB Model computes a health insurance composite amount for each generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or

children and family coverage for the State's health insurance contribution. These are amounts paid on behalf of State employees as of January 1 of the preceding school year. In 2025, this per FTE amount was $17,596.

To be sure, districts do not offer all staff health care insurance (such as part time aides), and some staff access health insurance through their spouse. Thus, the Wyoming Funding Model has limited this health insurance subsidy only to those FTE in the districts that choose to take such health insurance. Nevertheless, the EB Model continues to provide this health insurance subsidy for all FTE in the model.

We recommend continuing this approach which would mean there is a cost difference between the EB and Wyoming Funding Models.

35. Benefits

In determining staff costs, the Wyoming Funding Model uses a base salary for various positions and adds to it benefit costs. Benefits have included health care (discussed above), Social Security and Medicare, retirement, worker's compensation, disability and unemployment insurance. For the EB Model, the amount for Social Security is 6.2% employers' share up to the maximum income taxed by Social Security.

The costs for these benefits in the Wyoming Funding Model are as follows:

Benefit Element	Percent of salary
Social Security and Medicare	For Social Security 6.2% and 1.45% for Medicare at all income. The EB Model recommendation is to cap the Social Security funding at 6.2% of the maximum federal social security income amount each year.
Retirement	Beginning with FY 2026-27 total rate will be 19.12% (12.69% paid through the model, 2.501% of employer share paid outside of the model and 3.929% will be the employee's responsibility)
Worker's Compensation	0.70%
Unemployment Insurance	0.06%

36. Regional Cost Adjustments

In a state the size of Wyoming, it is no surprise that there are differences in prices across the state. Regional cost adjustments are designed to compensate districts for the varying purchasing power of the education dollar across geographic regions of the state, particularly for professional staff salaries. Wyoming uses two indices, the Wyoming Cost-of-Living Index (WCLI) and the Wyoming Hedonic Wage Index computed in 2005 (2005 HWI). Both have a state average value of 100, and each district's RCA is computed as the largest of the WCLI, the HWI or 100.

2020 WY EB Model	Wyoming Funding Model	2025 WY EB Model
Adjust model salaries for regional differences by using the RCA index as calculated by Picus Odden & Associates (Taylor).	Adjust model salaries for regional differences by using the greater of the Wyoming Cost of Living Index (average of the past 6 semiannual calculations) or the 2005 HWI, with a minimum index value of 100.	Use updated HWI as computed by Lori Taylor for Picus Odden & Associates.

Evidence and Recommendation

Economists and the school finance policy community generally agree that the purchasing power of the education dollar varies across geographic regions of a state. Over the past 30-40 years, therefore, the policy community has developed a variety of approaches to quantify these cost differences to facilitate the use of a "cost index" to adjust state aid allocations to ensure the equal purchasing power of each school district's personnel dollars. For many years, the hedonic wage index (HWI) approach was used to develop such cost indices. During the past 15 years, however, a comparable wage index (CWI) approach was also developed and has assumed more support among the school finance community.

The HWI approach seeks to identify various elements in regions/school districts that produce cost increases (dis-amenities) or decreases (amenities) for school districts. These include things like cultural resources (theaters, symphonies, museums, etc.), the cost of living in a specific area, demographic characteristics of the community, etc. The variables that are found to represent the amenities and dis-amenities tend to be controversial, making consensus difficult to reach on what variables and equations should be used to develop the index. The hedonic approach also produces indices for each district.

The CWI approach takes a different tact and avoids the debate over appropriate amenity and dis-amenity variables. The CWI identifies actual wages individuals have accepted to work in various regions of the state, in jobs different from but with similar skills and competencies to education. The notion is that these wages represent the salary differences that must be provided in order to have workers take jobs at fair salaries across regions. These actual comparable wages theoretically incorporate all the amenities and dis-amenities in the various regions. The CWI approach posits that these comparable wages can be used to quantify wage differences needed across regions to ensure equal purchasing power of compensation dollars for education. However, the computation of a CWI would not produce an index for each county in Wyoming, so counties would be grouped into regional labor markets.

In addition, Wyoming has developed a "cost of living" index (the Wyoming Cost of Living Index or WCLI) across regions and districts. Though a cost-of-living index reflects the variable costs to families of the market basket of goods families purchase across geographic areas, it does not reflect the market basket of goods that school districts purchase. As a result, it has not received support from the school finance policy community for use as a regional cost adjustment. Despite this, the WCLI continues to be used in the Wyoming Funding Model.

Both the hedonic and comparable wage approaches produce an index, with an average of 100. Districts with indices below 100 would have their personnel resources reduced to adjust for lower costs and districts with indices above 100 would have their personnel resources increased to adjust for higher costs. These adjustments have led to debate on the efficacy of the indices not only in Wyoming but also other states. The WCLI also has values below and above 100.

The Wyoming Funding Model uses a cost adjustment factor that is the greater of the 2005 HWI or the WCLI, with a minimum index of 100. We view this approach as more a compromise policy than a clean regional cost adjustment.

The EB Model uses the updated 2025 HWI, as computed by Dr. Lori Taylor, as the regional cost adjustment, accounting for costs above and below the state average.

37. External Cost Adjustments

One of the challenges in estimating a cost-based funding model is that the prices of the components included in the basket of educational goods and services change over time. To make sure the cost estimates remain accurate, Wyoming recalibrates the Wyoming Funding Model at least every five years. However, the prices of the goods and services in the basket are likely to change from year-to-year. To keep the model cost-based, adjustments for inflation are needed.

This adjustment, referred to as the External Cost Adjustment (ECA), adjusts the prices of the goods and services in the basket on the basis of appropriate inflation figures. Since 2012 Wyoming has used four separate indices to monitor inflations pressures recommended by Dr. Lori Taylor, one each for:

- Professional staff resources
- Non-professional staff resources
- Utilities
- Educational materials

The challenge the state faces with the ECA is that the Legislature has not always appropriated an ECA equal to the ECA computations for these four indices. In some years, the Legislature has not appropriated an ECA, in other years, the Legislature has sunset the ECA after one or two years. An analysis conducted by LSO and reviewed by Picus shows that for 2025-26, the cumulative ECA appropriated by the Legislature since the 2020 recalibration exceeds the cumulative ECA estimated by Taylor for those years. Specifically the analysis shows:

Table 3.7 Cumulative External Cost Adjustments: 2020 to School Year 2025-26

Category	Legislative ECA (%)	Taylor Estimated ECA (%)
Professional staff	17.495	13.447
Non-professional staff	19.029	15.639
Educational Materials	47.138	38.996
Energy	49.330	47.945

We recommend that in the future, the ECA adopted for the Wyoming Funding Model be based on the four indices recommended by Dr. Taylor. This recommendation would make the determination of the ECA more predictable for school district budgeting.

Glossary of Funding Model Elements

Model Element	Definition
Core Teachers	Core teachers are the grade-level classroom teachers in elementary schools and the core subject teachers in middle and high schools (e.g., mathematics, science, language arts, social studies and world language, including such subjects taught as Advanced Placement in high schools).
Elective Teachers	Elective teachers as all teachers for subject areas not included in the core, including such classes as art, music, physical education, health, and career and technical education, etc. However, some career technical classes can substitute for core math and science classes.
Instructional Coaches	Instructional coaches, sometimes called mentors, site coaches, curriculum specialists, or lead teachers, coordinate the school-based instructional program, provide the critical ongoing instructional coaching and mentoring that the professional development literature shows is necessary for teachers to improve their instructional practice, do model lessons, and work with teachers in collaborative teams using data to improve instruction.
Tutors	Tutors, or Tier II Interventionists, are licensed teachers who, during the regular school day, provide 1-1 or small group (no larger than 5) tutoring to students struggling to meet proficiency in core subjects.
Extended day Programs	Extended day programs provide academic extra help to students outside the regular school day before and after school.
Summer School	Summer school includes all programs provided during the summer months, i.e., outside the regular school year, largely focusing on academic deficiencies of students but includes a wider array of classes for high school students
At-Risk Students	The unduplicated count of students eligible for free and reduced price lunch, ELL and mobile students. The proposed resources triggered by At-Risk students would include all resources for tutors (Tier 2 Interventionists), extended day programming, summer school, and additional pupil support.
English Language Learner services	ELL students are those who come from homes where English is not the native language and who perform at Levels 1, 2 and 3 in English; in addition to the At-Risk resources, the model provides resources to provide English as a Second Language services for these students.
Special Education	Programs for all students with disabilities.
Alternative Schools	Alternative Schools provide services, usually outside of the regular school environment, to students who have some combination of significant behavioral, social and emotional

Model Element	Definition
	issues, often including alcohol or drug addictions. These students are different from at-risk students and require a different set of services.
Gifted and Talented	Gifted and talented students are those who perform in the very top levels of performance, and can handle much more than a year of academic work in a regular school year.
Substitute Teachers	These are regular substitute teachers.
Student Support, Counselors, Nurses	These include guidance counselors, social workers, psychologists, family outreach workers, nurses, etc. Guidance counselors and nurses are provided for all students and additional student support staff are provided in the struggling students section.
Duty/Supervisory Aides	These are non-licensed individuals who monitor the hallways, doors and playgrounds, and supervise the lunchroom.
Librarians	These are regular school librarians.
Principal, Assistant Principal	These are regular school principals and assistant principals.
Professional Development	Professional development includes all training programs for licensed staff in schools including professional development for implementing new curriculum programs, sheltered English instructional strategies for ELL students, gifted and talented, etc. It also includes assistance to teachers working in collaborative groups and ongoing coaching of teachers in their individual classrooms. Resources include instructional coaches, 10 pupil-free days for training, and $156 per pupil for trainers and other expenses.
School-Based Technology and Equipment	These include within school technology such as computers, servers, network equipment, copiers, printers, instructional software, security software, some curriculum management courseware, etc.
Instructional and Library Materials	This includes textbooks, consumable workbooks, laboratory equipment, library books and other relevant instructional materials.
Interim-, Short-Cycle Assessments	These include benchmark, progress monitoring, formative, diagnostic and other assessments teachers need in addition to state accountability assessment data.
Student Activities	This includes on-credit producing after-school programs, including clubs, bands, sports, and other such activities.
Central Office Administration	This is based on a prototypical school district of 3900 students and includes all typical central office staff such as superintendent, assistant superintendents, curriculum director, special education, the business and HR functions, assessment & technology, and a director of operations/maintenance.
Operations and Maintenance	Covers functions such as custodial services, grounds maintenance and facilities maintenance and minor repairs.

Chapter 4
Other Topics

As part of the recalibration process, several additional issues emerged – either in response to the ruling in *WEA v. Wyoming*, or through discussions during Select Committee on School Finance Recalibration (Committee) – related to issues not directly addressed by the EB Model as described in Chapter 3. The sections of this chapter include analyses of these issues to help the Committee in its further deliberations. Specifically, this chapter addresses the following issues:

- Food services funding
- The research on providing free meals for all students
- School Resource Officers (SROs)
- Reserves and cash balances
- Virtual Education Contracts between Wyoming school districts and on-line providers

In addition, the final section of this chapter summarizes the professional judgment panels completed prior to October 7, 2025.

Food Service Operations

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APA Consulting

Introduction

In schools, food service refers to the operations that plan, prepare, and serve meals to students. School food service can be funded through a combination of federal reimbursements, state and local support, and revenues from paid meals or à la carte sales. Historically, food service has been considered "self-sustaining," meaning it is expected to fund itself primarily through meal revenues and reimbursements rather than the general education budget. However, examining food service expenditures and revenues in Wyoming suggests that may not be the case.

Federal Funding Sources

The U.S. Department of Agriculture (USDA) operates programs like the National School Lunch Program (NSLP) and School Breakfast Program (SBP) to provide nutritionally balanced, low-cost or free lunches to school children. Such programs were first permanently established through the Child Nutrition Act of 1946, expanded to more explicitly address low-income students and provide equitable access to meals through the Child Nutrition Act of 1966, and updated through the 2010 Healthy, Hunger-Free Kids Act (HHFKA) which placed greater emphasis on nutrition by aligning school meal standards with federal dietary guidelines. Districts are reimbursed for each meal served that meets federal nutrition standards, including requirements for fruits, vegetables, whole grains, and limits on calories, sodium, and saturated fat. The reimbursement rate depends on whether the meal is classified as free, reduced-price, or paid. Some districts also receive USDA commodity foods (such as fruits, vegetables, and meats) to help offset food costs.

Additionally, non-pricing or universal free meal programs, like the Community Eligibility Provision (CEP), allow all students in a school to eat for free, with reimbursements based on the percentage of low-income students enrolled.

Eligibility for Free and Reduced Price Meals

The USDA income eligibility guidelines for school meals are intended to direct benefits to those children most in need. These guidelines are based on the federal income poverty guidelines and are revised annually. The eligibility criteria is 130% of the income poverty guidelines for free meals and 185% for reduced-price meals.

Table 4.1 USDA Income Eligibility Guidelines

Category	Percent of Poverty Level	Income
Free	Below 130% of Poverty Level	$41,795
Reduced	Between 130% and 185%	$59,478

Federal Reimbursement Rates

For lunch, free reimbursement meals are reimbursed at a rate of $4.60 per meal for free meal students, $4.20 for reduced-price meal students, and $0.44 for paid meal students. There is also a performance-based additional reimbursement of $0.09 per meal, and for schools where 60% or more of the second preceding school year lunches were served free or reduced-price there is an

additional $0.02 reimbursement. Breakfast for free meal students are reimbursed at $2.46 per meal, reduced-price meals at $2.16, and $0.40 for paid. Additionally, "severe need" schools where at least 40% of the lunches served during the second preceding school year were served free or reduced-price receive an additional $0.48 reimbursement per meal.

Food Services in Wyoming

Like other states, Wyoming districts collectively receive food service revenues from federal USDA meal program sources, and from paid meals charged to families.

Participation in USDA Meal Programs

Of the 48 school districts in Wyoming, 41 districts participate in the USDA meal programs while seven districts have elected not participate, as shown in the table below.[33]

Table 4.2 Districts That Do Not Participate in USDA Meal Programs (per WDE)

District Name	Year Stopped Participating
Fremont #24	2022-23
Lincoln #1	2015-16
Niobrara #1	2015-16
Park #16	2015-16
Sheridan #1	2015-16
Sheridan #3	2016-17
Weston #7	2023-24

Districts choose not to participate for a variety of reasons, such as not wanting to follow restrictive federal meal guidelines or finding that participation is burdensome.

Average Meal Prices

Districts range in the average price they charge for paid meals. In 2023-24, for elementary school meals, districts ranged from charging $2.00 to $4.15, with an average of $2.97. Middle/Junior High meal prices ranged from $2.00 to $5.00, with an average price of $3.27. High school meal prices were similar, ranging from $2.25 to $5.00, or $3.36 on average. Adult meals were the highest price, ranging from $3.00 to $6.50, with a district average of $4.63 per meal.

Table 4.3 District Meal Prices (per WDE)

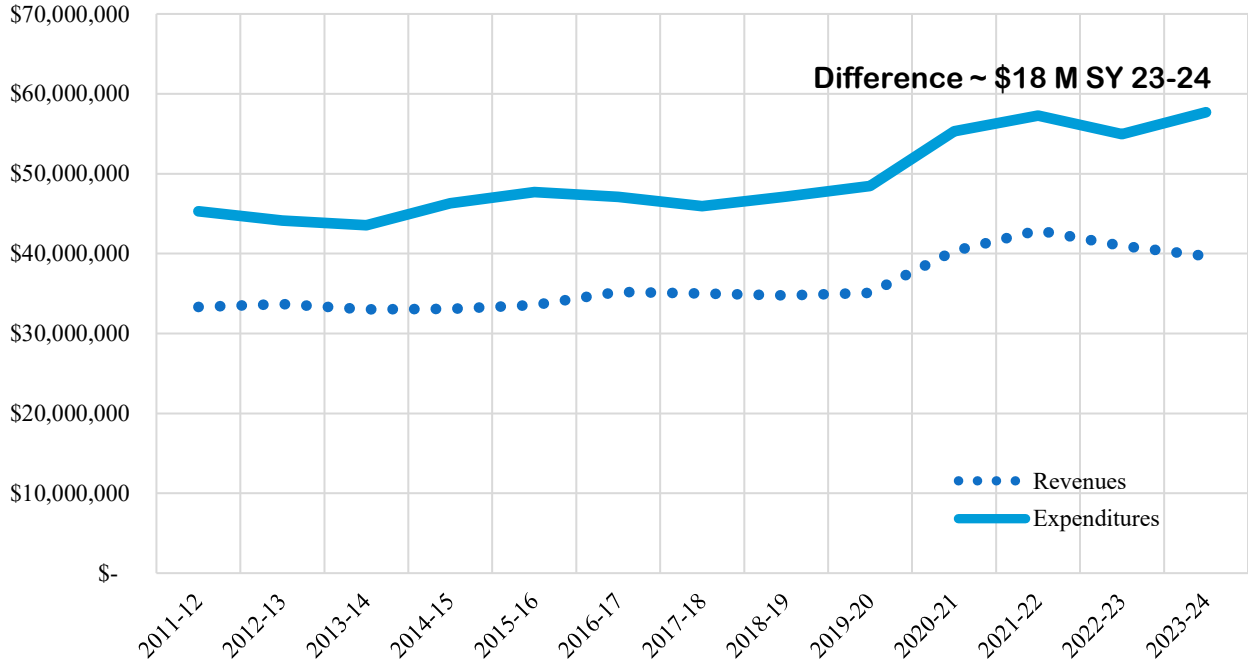
	Elementary Meal Price	Middle/ Junior High Meal Price	High School Meal Price	Adult Meal Price
Minimum	$2.00	$2.00	$2.25	$3.00
Maximum	$4.15	$5.00	$5.00	$6.50
Average	$2.97	$3.27	$3.36	$4.63

Three districts are "non-pricing" programs per WDE, meaning that they do not charge any of their students for meals: Fremont #14, Fremont #21, and Fremont #38.

Revenues vs. Expenditures

Using district revenue and expenditure data from WDE, we examined reported food service expenditures and revenues since 2011-12. Revenue sources included individual USDA food programs, as well as local food service revenues including paid meals and daily sales, while expenditures were all expenditures reported for food service operations, regardless of funding source.[34] We compared reported food service expenditures versus food service revenue sources, and the difference between the two is considered to be the expenditures that the districts were subsidizing from other, non-food service-specific revenue sources.

Figure 4.1 Wyoming School Food Services Revenues and Expenditures, 2011-12 to 2023-24



Comparing food service expenditures to food service revenues shows that there is a gap between the two that districts have to subsidize through other sources, and that appears to be widening. In 2023-24, the difference was about $18 million, or roughly 30% of food service expenditures were being subsidized by districts from other sources.

Table 4.4 at the end of this section presents this information by district for the most recent year. Districts ranged in terms of:

- How much of their food service revenues came from local sources (i.e. paid meals and daily sales) vs. federal USDA meal program sources. Some districts' food service revenues were entirely from federal USDA sources (i.e. the "non-pricing" districts that do

[34] Following the Wyoming Chart of Accounts, districts code food services expenditures to function 41xx- Food Service Operations. There is limited detail in the expenditure data on the source of funds for expenditures, so we instead turned to revenue data. Relevant revenue sources specific to food service are 8160x - Food Service (where charges are recorded for paid food service/daily sales) and 8421x-8425x for individual USDA Programs.

not charge for meals), while in other districts that did not participate in USDA meal programs, 100 percent of their food service revenues were from local sources.
- How much districts subsidize food services ranged from 5 to 77 percent of their total food service expenditures not being paid for by food service-specific revenue sources.

Districts that had higher percentages of expenditures being subsidized by other district revenue sources were more likely to either be non-pricing districts, where all students receive free meals, or districts that do not participate in the federal USDA meal programs.

Policy Considerations

The state has different options for how to approach food service funding in Wyoming, that range from not providing any funding for food service (i.e. maintaining the current status quo which likely does not meet the court's ruling) to providing free meals for all students.

Within that range is the possibility of reimbursing districts for all or a portion of what they subsidize for food service, such as either based on individual district costs or set per meal reimbursement rates. Different choices could be made about qualification requirements for district reimbursement that are aligned with efficiency or other programmatic goals for food service programs; for example: (1) requiring auditing of food service operations to ensure efficiency; (2) requiring participation in the USDA meal programs so state does not pay full cost, or (3) requiring districts to meet healthy food guidelines similar to the federal requirements.

The most expansive funding choice, free meals for all students, will be explored in the next section.

Table 4.4 2023-24 Food Service Revenues and Expenditures

District	Food Service Revenues	% of Total Food Service Revenues from Local/ State Sources	% of Total Food Service Revenues from Federal Sources	Expenditures	Difference	% Difference of Total Expenditures (% Subsidized from Non-Food Service-Specific Sources)	Does Not Participate in USDA Programs (per WDE)	Non-Pricing Program (per WDE)
Sheridan #3	$29,596	100%	0%	$130,676	-$101,079	-77%	X	
Fremont #21	$215,237	0%	100%	$887,489	-$672,253	-76%		X
Niobrara #1	$64,691	100%	0%	$264,244	-$199,552	-76%	X	
Park #16	$33,942	100%	0%	$129,395	-$95,453	-74%	X	
Fremont #14	$314,884	2%	98%	$1,012,486	-$697,603	-69%		X
Carbon #2	$307,853	42%	58%	$849,417	-$541,564	-64%		
Platte #2	$102,364	41%	59%	$262,215	-$159,851	-61%		
Weston #7	$91,765	100%	0%	$223,923	-$132,158	-59%	X	
Washakie #2	$69,982	100%	0%	$160,052	-$90,071	-56%		
Converse #2	$244,159	30%	70%	$512,867	-$268,708	-52%		
Fremont #2	$113,352	37%	63%	$229,228	-$115,876	-51%		
Lincoln #1	$208,583	100%	0%	$415,043	-$206,460	-50%	X	
Platte #1	$293,610	30%	70%	$564,792	-$271,183	-48%		
Fremont #38	$471,955	100%	0%	$874,042	-$402,087	-46%		X
Fremont #24	$217,894	100%	0%	$401,114	-$183,220	-46%	X	
Carbon #1	$592,220	41%	59%	$1,076,657	-$484,437	-45%		
Uinta #6	$280,082	52%	48%	$505,654	-$225,571	-45%		
Fremont #6	$233,022	28%	72%	$402,053	-$169,032	-42%		
Converse #1	$786,818	49%	51%	$1,333,661	-$546,843	-41%		
Big Horn #4	$161,408	29%	71%	$264,177	-$102,769	-39%		
Sweetwater #1	$1,921,634	36%	64%	$3,070,451	-$1,148,818	-37%		
Sublette #1	$420,073	54%	46%	$656,851	-$236,778	-36%		
Johnson #1	$502,058	57%	43%	$784,813	-$282,756	-36%		
Campbell #1	$3,833,607	44%	56%	$5,950,203	-$2,116,595	-36%		
Big Horn #2	$495,207	39%	61%	$764,801	-$269,594	-35%		

District	Food Service Revenues	% of Total Food Service Revenues from Local/ State Sources	% of Total Food Service Revenues from Federal Sources	Expenditures	Difference	% Difference of Total Expenditures (% Subsidized from Non-Food Service-Specific Sources)	Does Not Participate in USDA Programs (per WDE)	Non-Pricing Program (per WDE)
Teton #1	$1,388,274	62%	38%	$2,136,240	-$747,965	-35%		
Washakie #1	$569,591	38%	62%	$855,242	-$285,650	-33%		
Goshen #1	$670,948	36%	64%	$1,007,422	-$336,474	-33%		
Big Horn #1	$361,930	34%	66%	$540,863	-$178,933	-33%		
Crook #1	$514,899	45%	55%	$765,194	-$250,295	-33%		
Uinta #4	$276,339	47%	53%	$406,163	-$129,825	-32%		
Natrona #1	$4,523,055	33%	67%	$6,635,486	-$2,112,431	-32%		
Park #6	$543,910	27%	73%	$788,567	-$244,658	-31%		
Sheridan #1	$497,868	82%	18%	$713,784	-$215,917	-30%	X	
Laramie #2	$541,043	45%	55%	$772,365	-$231,322	-30%		
Weston #1	$310,080	41%	59%	$436,035	-$125,955	-29%		
Big Horn #3	$354,341	32%	68%	$488,619	-$134,279	-27%		
Fremont #1	$735,143	41%	59%	$987,951	-$252,808	-26%		
Sheridan #2	$1,843,179	46%	54%	$2,389,943	-$546,764	-23%		
Lincoln #2	$995,090	51%	49%	$1,269,035	-$273,945	-22%		
Uinta #1	$1,346,118	37%	63%	$1,684,845	-$338,727	-20%		
Sublette #9	$271,028	37%	63%	$333,826	-$62,799	-19%		
Hot Springs #1	$329,809	41%	59%	$405,302	-$75,493	-19%		
Sweetwater #2	$1,158,987	46%	54%	$1,403,303	-$244,316	-17%		
Fremont #25	$1,191,577	26%	74%	$1,429,447	-$237,869	-17%		
Laramie #1	$7,060,022	32%	68%	$8,117,191	-$1,057,169	-13%		
Park #1	$1,043,846	42%	58%	$1,171,384	-$127,538	-11%		
Albany #1	$1,164,511	36%	64%	$1,231,086	-$66,575	-5%		
State Total	**$39,697,582**	**41%**	**59%**	**$57,695,599**	**-$17,998,017**	**-31%**		

The Case for Free School Meals

Mike Griffith
Picus Odden & Associates

Introduction

Across the country, research has consistently shown that students benefit when they have access to healthy meals at school. Nutritious food supports physical well-being as well as academic achievement and positive school climate. In recent years, several states have adopted policies that guarantee all students free breakfasts and/or lunches, regardless of family income.

In response to growing interest in universal meal programs, Picus Odden & Associates reviewed current research on the academic and behavioral effects of free school meals. In addition, we examined state policies to determine which states have implemented these programs and how they are working in practice.

Research Supporting Free School Meals

A growing body of evidence suggests that universal free school meals benefit students in multiple ways:

1. **Academic Benefits**
    a. A 2020 study found that math performance improved in districts with historically low eligibility for free meals (Ruffini, 2020). The gains were particularly strong among racial and ethnic groups that previously had lower participation in income-based meal programs.
    b. By reducing the stigma attached to receiving free or reduced-price lunch, universal meal programs encourage more students to participate, ensuring that hunger is not a barrier to learning.
2. **School Climate and Student Well-Being**
    a. A 2025 report from the Urban Institute concluded that free meals help students feel safer and more welcome at school (Gutierrez, 2025). This sense of belonging leads to stronger engagement in the classroom and better student behavior.
    b. The same report emphasized that access to meals reduces stress for families and creates consistency in the school day, which supports both learning and emotional well-being.
3. **Behavioral Improvements**
    a. A 2021 study found that schoolwide free meal programs reduced suspensions significantly, with white male elementary students experiencing approximately a 17 percent decline (Gordon & Ruffini, 2021). This suggests that access to meals may play a role in improving discipline outcomes, especially for younger students.

Taken together, this research demonstrates that free school meal programs contribute to stronger academic achievement, better student conduct, and more positive school environments.

States Currently Providing Universal Free Meals

Momentum for universal school meals has accelerated in recent years. Hayes et al. (2025) reported that eight states now provide free breakfast and lunch to all students, regardless of income (each state program requires all districts to participate unless noted):

- California
- Colorado – School districts can, but do not have to, opt in.
- Maine – Schools are encouraged to participate but are not required to.
- Massachusetts
- Michigan
- Minnesota
- New Mexico
- Vermont

Policies that provide free meals to all school children also remove administrative burdens tied to eligibility determination and ensure no student is singled out or left behind. The eight states identified above ensure every child has access to healthy meals as both an educational investment and a strategy for equity.

Conclusion

Free school meal programs support learning, improve behavior, and help foster a sense of safety and belonging among students. By providing breakfast and lunch at no cost to all children, states are addressing hunger in schools while also advancing educational goals.

As more states consider whether to implement universal school meal programs, the research to date supports their adoption. Ensuring that every student has access to healthy food during the school day is a proven strategy for improving academic outcomes and creating more equitable, supportive school environments.

The Cost of Providing School Resource Officers to Public Schools
Preliminary Report

Mike Griffith
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Introduction

The Wyoming First Judicial District Court's recent decision in *Wyoming Education Association v. State of Wyoming* affirmed that all public-school students in the state are constitutionally entitled to the benefit of School Resource Officers (SROs). This ruling carries significant implications for the state's education finance system, as it requires the provision of SRO services to be addressed equitably and uniformly across all districts.

The State of Wyoming has engaged Picus Odden & Associates (POA) to conduct a recalibration of the state's school funding formula. One requirement of this recalibration is to ensure that the Wyoming educational resource block grant accurately reflects the costs associated with delivering SRO services statewide. To inform this work, POA has undertaken a comprehensive review of the research literature related to school resource officers, analyzed existing state policies governing their use, examined the results of a recent statewide survey of school districts that collected information on current SRO staffing levels and expenditures, and conducted several interviews with school districts about the topic.

The integration of these data sources will enable POA to develop precise cost estimates for the provision of SRO services across Wyoming. These estimates will serve as the foundation for proposed revisions to the state's funding formula, thereby ensuring that Wyoming meets its constitutional obligation to provide every student with equitable access to the security and protective benefits afforded by school resource officers.

Court ruling

In a February 2025 decision, the Wyoming First Judicial District Court addressed the role of SROs in the state's education system. The Court acknowledged that the national research base regarding the effects of SROs is mixed. Nevertheless, it found that the plaintiffs had established sufficient evidence to demonstrate that SROs provide tangible educational benefits to Wyoming students. Specifically, the Court concluded that the presence of SROs in school facilities contributes to improved student learning by fostering increased feelings of safety and security.

The Court further determined that "all Wyoming public school students are entitled to the benefit of SROs" and that the inclusion of SROs as part of the educational program is both appropriate and necessary in the current context. The decision held that SROs "have been established as appropriate for the times and should be implemented for all school districts." The Court's ruling establishes SROs as an essential part of Wyoming's constitutionally mandated education system. As a result, the state must ensure that SRO services are equitably available to all students across every district. Importantly, the Court did not mandate that the state provide a full-time SRO for each school; instead, it emphasized that all students should have access to SRO support. The

work of POA has focused on determining the appropriate number of SROs needed statewide and the cost associated with each individual SRO.

Defining the Role of School Resource Officers

The first question to consider is what a SRO is and how they contribute to a student's educational experience. A typical SRO engages in various activities throughout the school day. The National Association of School Resource Officers (2021) outlined a "triad" concept of school-based policing, which categorizes SRO responsibilities into three roles: teacher, informal counselor or mentor, and law enforcement officer. According to the National Association of Secondary School Principals (2020), the SRO's primary responsibility is to ensure safety in schools. They also emphasize that "…regular duties should include teaching law-related topics such as bullying, gang violence, driving safety, and underage drinking, among others."

National Landscape

In 2022, the Education Commission of the States (ECS) conducted a review of state school safety policies. This survey revealed that 41 states have policies addressing SROs. Among these, 27 states require SROs to be certified police officers. National Center for Education Statistics (NCES, 2024b) found that during the 2021-22 school year, 60.6% of public schools employed one or more security staff members. Additionally, 44.8% of these schools had sworn law enforcement officers who routinely carried firearms. Sworn law enforcement officers were present in 63.1% of high schools, 62.3% of middle schools, and 34.4% of elementary schools. According to data from the NCES, there were 64,850 SROs in public schools during the 2020-21 school year (NCES, 2025). A Department of Justice study found that only 18.6% of SROs were district employees, while the majority—81.4%—were employees of local police or sheriff's offices (Davis, 2023).

Review of Survey Data

In the summer of 2025, the Wyoming Department of Education conducted a survey of Wyoming school districts to assess their current usage of SROs. The survey focused on several key questions, including the number of SROs at each school, whether these SROs are district employees or contractors, the district's expenditure on SRO services, and which entity—whether the district, local community, federal government, or private donors—covers the costs associated with SRO services. POA staff organized each of the survey answers by district (See Table 4.5. Key findings from the state's survey include:

- Thirteen districts and three charter schools reported that they do not currently have any SROs working in their schools.[35]
- Thirty-five school districts currently have at least one SRO in their schools.
- One district employs their only SRO directly, 28 contract for their SROs, and 6 use a combination of employing and contracting for their SROs.
- There are 83.6 Full-Time Equivalent (FTE) SROs in the state. Eleven (FTE) SROs are employed by their districts and 72.6 are contracted for.

[35] School districts that responded that they do not currently have an SRO: Big Horn #3, Cheyenne Classical Academy (Laramie #1 charter school), Converse #2, Crook #1, Hot Springs #1, Johnson #1, Laramie #2, Lincoln #1, Park #16, Prairie View Community School (Platte #1 charter school), Sheridan #3, Ulinta #4, Ulinta #6, Weston #1, Weston #7, and Wyoming Classical Academy (Natrona #1 charter school).

- Thirteen school districts reported that they had additional expenses for SRO training, with the same number reporting additional costs for supplies & equipment. Four reported additional insurance costs for their SROs, and two had additional costs for law enforcement vehicles.

Of the 35 school districts that reported having SROs in their schools, 30 provided details about their expenditures. Collectively, these 30 school districts spent $5.9 million on 76.4 SRO positions, averaging $77,303 per SRO. According to the survey responses, some districts cover the entire salary and benefits of an SRO, while others contribute only a small portion of the costs. The amount spent by school districts per FTE SRO varies significantly, ranging from $10,000 to $148,250. These variations in expenses are related to the number of days and hours the SRO works, as well as whether another entity—such as a city, county, state, sheriff's office, or private funder—shares the costs of salary and benefits.

District Interviews

To gain a better understanding of how school districts utilize School Resource Officers (SROs), the POA staff conducted several interviews with district personnel. Key points that emerged from these interviews include:

- Contracting for Services: All the districts interviewed emphasized the importance of contracting with their local sheriff's office, city police department, or both, to provide SRO services to their schools.
- Location of the SROs: SROs are typically stationed at secondary schools but also make visits to elementary schools throughout the day. Each district noted that the county sheriff or local police may leave the school during the day to address other public safety concerns.
- Cost Variations: The sample districts showed significant differences in the costs they incurred for SRO services. In some cases, districts were responsible for covering the entire salary and benefits of an SRO, whereas in other instances, they only needed to cover a portion of those costs.
- After-School Activities: Districts highlighted the necessity of having SROs present during after-school activities. Every interviewee stressed the importance of SROs' presence at sporting events to address safety concerns. In some cases, SROs volunteered their time, while in others, the districts compensated them for this additional duty.
- SRO Training: During interviews, it was noted that SROs need extensive additional training, regardless of whether they are employed by the school district or a sheriff's or police department. The unique challenges of working with children in a school setting necessitate this extra training.

Preliminary Recommendations

We utilized the Wyoming Department of Education's survey, along with the interviews described above, state, and national data, to inform our recommendations. It is suggested that SROs be assigned to buildings or campuses rather than to individual schools. Most secondary schools would typically require a single SRO, whereas elementary schools could effectively share an SRO, potentially operating with a ratio of one SRO for every three schools. Additional funding should be allocated for training, materials, supplies, and possibly even police vehicles to support this initiative.

At present, POA is unable to determine the overall cost of providing SRO services to public schools in Wyoming. We still need more information regarding SRO salaries and the most effective locations for their deployment. In addition, issues related to providing support for and sharing SRO resources across school district boundaries and/or county boundaries need to be resolved to ensure the most efficient deployment of SROs to protect students and school staff, and to offer support for teaching, counselling, and mentoring at the schools they serve. Moreover, it is essential to assess whether districts should be reimbursed for the full cost of SROs, akin to the reimbursement model the state uses for special education and transportation expenses.

Table 4.5 SRO Survey Results – Number of SRO Per District

School District	Employed SROs (FTE)	Contacted SROs (FTE)	Total SROs (FTE)
Albany County School District #1	0	3	3
Big Horn County School District #1	0	1.98	1.98
Big Horn County School District #2	2	2	4
Big Horn County School District #3	0	0	0
Big Horn County School District #4	0	0.5	0.5
Campbell County School District #1	0	9.995	9.995
Carbon County School District #1	0	2	2
Carbon County School District #2	0	1.02	1.02
Cheyenne Classical Academy (Laramie #1)	0	0	0
Converse County School District #1	2	2	4
Converse County School District #2	0	0	0
Crook County School District #1	0	0	0
Fremont County School District # 1	0	2	2
Fremont County School District # 2	0	1	1
Fremont County School District # 6	0	1	1
Fremont County School District #14	0.99	0.99	1.98
Fremont County School District #21	3	3	6
Fremont County School District #24	0	1	1
Fremont County School District #25	0	2	2
Fremont County School District #38	1	1	2
Goshen County School District #1	0	2.25	2.25
Hot Springs County School District #1	0	0	0
Johnson County School District #1	0	0	0
Laramie County School District #1	0	7	7
Laramie County School District #2	0	0	0
Lincoln County School District #1	0	0	0
Lincoln County School District #2	0	1	1
Natrona County School District #1	0	6.48	6.48
Niobrara County School District #1	0	4	4
Park County School District # 1	0	0.98	0.98
Park County School District # 6	0	1	1
Park County School District #16	0	0	0

School District	Employed SROs (FTE)	Contacted SROs (FTE)	Total SROs (FTE)
Platte County School District #1	0	1.05	1.05
Platte County School District #2	0	1	1
Prairie View Community School (Platte #1)	0	0	0
Sheridan County School District #1	0	2	2
Sheridan County School District #2	0	1	1
Sheridan County School District #3	0	0	0
Sublette County School District #1	1	0	1
Sublette County School District #9	0	0.17	0.17
Sweetwater County School District #1	0	3	3
Sweetwater County School District #2	1	1	2
Teton County School District #1	0	3.1	3.1
Uinta County School District #1	0	2	2
Uinta County School District #4	0	0	0
Uinta County School District #6	0	0	0
Washakie County School District #1	0	1.002	1.002
Washakie County School District #2	0	0.1	0.1
Weston County School District #1	0	0	0
Weston County School District #7	0	0	0
Wyoming Classical Academy (Natrona #1)	0	0	0
State Total	**11.0**	**72.6**	**83.6**

Table 4.6 SRO Survey Results – Reported Cost per SRO

School District	Total SROs (FTE)	Total Cost	Cost Per SRO
Washakie County School District #1	1.002	$10,000	$9,980
Platte County School District #2	1	$20,000	$20,000
Fremont County School District #14	1.98	$47,316	$23,897
Big Horn County School District #2	4	$100,000	$25,000
Niobrara County School District #1	4	$100,000	$25,000
Washakie County School District #2	0.1	$2,500	$25,000
Fremont County School District # 2	1	$25,988	$25,988
Goshen County School District #1	2.25	$72,410	$32,182
Platte County School District #1	1.05	$40,000	$38,095
Fremont County School District #21	6	$237,007	$39,501
Carbon County School District #2	1.02	$40,800	$40,000
Converse County School District #1	4	$167,294	$41,824
Albany County School District #1	3	$150,000	$50,000
Big Horn County School District #1	1.98	$110,000	$55,556
Lincoln County School District #2	1	$62,500	$62,500
Fremont County School District # 6	1	$65,242	$65,242
Big Horn County School District #4	0.5	$36,545	$73,090
Carbon County School District #1	2	$150,000	$75,000
Sheridan County School District #2	1	$75,000	$75,000
Fremont County School District #24	1	$81,802	$81,802
Natrona County School District #1	6.48	$559,700	$86,373

School District	Total SROs (FTE)	Total Cost	Cost Per SRO
Fremont County School District #38	2	$183,247	$91,624
Sheridan County School District #1	2	$195,818	$97,909
Fremont County School District # 1	2	$213,880	$106,940
Laramie County School District #1	7	$837,061	$119,580
Campbell County School District #1	9.995	$1,209,500	$121,011
Park County School District # 6	1	$129,141	$129,141
Sweetwater County School District #1	3	$405,900	$135,300
Uinta County School District #1	2	$277,500	$138,750
Fremont County School District #25	2	$296,500	$148,250
State Total	**76.357**	**$5,902,651**	**$77,303**

Cash Reserve Balances and the Need for Carry-Over Funding

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Introduction

Wyoming law currently governs how much funding school districts are allowed to hold in reserve. Under W.S. 21-13-313(e), districts may maintain a balance of up to 30% of their total foundation program amount, as calculated under W.S. 21-13-309. However, beginning July 1, 2028, this allowable balance will be reduced to 15%.

This upcoming change has sparked debate among school districts and state policymakers. Many district leaders have expressed concern that a 15% cap will not provide sufficient flexibility to cover the front-loaded costs of starting a new school year. Conversely, some state officials have argued that allowing districts to retain such high reserves may represent an inefficient use of state education funds that could otherwise be directed toward current student needs.

The central policy question is how Wyoming can balance these two concerns: ensuring that districts have adequate cash flow at the start of the school year while maintaining accountability and preventing excessive accumulation of funds that are not actively supporting student learning.

Why Districts Need Carry-Over Funding

Districts face unique financial pressures in the opening months of each school year. These pressures arise from both revenue timing delays and front-loaded expenditures.

Revenue Timing Issues

- **Recapture Districts**: Districts that generate more local revenue than their state guarantee often encounters early-year cash flow problems if the district does not receive monthly mineral property tax revenue. Because their local non-mineral property tax collections do not arrive until November or December, they must rely on a state loan disbursed on August 15—already six weeks into the school year. This lag leaves districts in a vulnerable position during the critical start-up period. The State does provide a cash flow loan beginning September 1, equal to a maximum amount of 20% of the foundation program amount and this loan is due back to the State by December 15, after the first non-mineral property tax payment.
- **Entitlement Districts**: These districts rely more heavily on the payments from the Public School Foundation Program Account. However, their first payment from the state also arrives on August 15, leaving them in a similar position as recapture districts without monthly mineral property tax payments: six weeks into the school year before significant revenues arrive.

Expenditure Timing Issues

At the same time, expenditures are front-loaded at the beginning of the academic year. Districts must purchase textbooks, technology, classroom supplies, and instructional materials well in advance of students arriving in classrooms. In addition, schools often pay for contracted services—such as technology support and facility maintenance—either in full or in part before the year begins.

The mismatch between delayed revenues and front-loaded costs creates a structural cash flow gap. Without sufficient reserves, districts may struggle to pay bills on time, creating instability in district operations and disrupting the smooth opening of schools.

Possible Budgetary Solution
Many district leaders argue that retaining the current 30 percent cap is the simplest solution. This level of reserve provides a cushion large enough to cover early expenditures while waiting for delayed state and local revenues. However, maintaining such a high reserve also raises concerns about whether districts are holding onto funds that could otherwise support student learning in the classroom.

Implement a Targeted Carry-Over Program
A potential compromise would allow districts to carry forward sufficient funds from one year to the next to cover early-year expenditures but require that those funds be expended in the first quarter of the school year. This approach ensures that carry-over balances serve their intended purpose—stabilizing cash flow—without enabling districts to accumulate large reserves indefinitely.

Lessons from Other States
Looking at other states provides insight into possible approaches:

- **Colorado**: Districts are required to reserve at least 3% of annual spending **(**excluding bonded debt service) for emergencies, and any use of these reserves must be replenished. Importantly, Colorado does not impose a cap on additional carry-over funds. Districts may carry forward balances without restriction, but they are required to report publicly how the funds will be used in the current school year. This policy balances flexibility with transparency.
- **Other States**: Several states have adopted variations on this model, where reserves are permitted but tied to reporting requirements or stipulations that they be directed toward immediate educational priorities. Wyoming could benefit from examining these models as it considers how to refine its own reserve policies.

Policy Considerations
The question of cash reserve balances intersects with broader policy goals:

- **Fiscal Responsibility**: Lowering the cap to 15% ensures that large amounts of state-provided funding are not held idle.
- **Operational Stability**: Allowing sufficient carry-over helps districts meet the significant financial obligations that occur before state and local revenues arrive each fall.
- **Equity**: Reserve policies affect recapture and entitlement districts differently. Any statewide policy should ensure equitable treatment while accounting for different cash flow realities.
- **Transparency and Accountability**: A system that allows carry-over funding but requires timely expenditure and public reporting may strike the right balance between flexibility and oversight.

Conclusion

Wyoming's decision to reduce the allowable cash reserve balance from 30% to 15% raises important questions about fiscal policy, operational stability, and educational equity. Districts contend that they need larger reserves to cover the early-year gap between expenditures and revenues, while policymakers emphasize the importance of ensuring that state funds are actively supporting students rather than sitting unused.

A potential middle ground would be to permit districts to carry over sufficient funds to manage the first months of the school year but require that these funds be spent promptly, with transparency requirements to ensure accountability. By adopting a policy that balances cash flow flexibility with responsible oversight, Wyoming can ensure that districts remain financially stable while maximizing the use of education dollars to support student learning.

Summary of Professional Judgement Panel Themes

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Themes from Initial Round of PJPs
In May and June 2025, eight professional judgment panels (PJPs) were convened- four held in person in Cheyenne, Cody, Gilette, and Rock Springs, and four held virtually- to hear from educators about the current funding model, including areas where the model was working well, and areas that could be improved. This document provides a summary of the themes that emerged during the sessions. Themes are organized by EB model element, with a concluding section of themes that addressed additional topics. Each section includes (1) any **key takeaways**, (2) **overall** themes heard from multiple participants at multiple PJPs, and (3) feedback that was **unique** to an individual PJP.

EB Model Elements

Class Size:
Key Takeaway: *Overall, panelists did not want to see increased model class sizes.*
Overall:
- Maintain class sizes.

Unique:
- Cody: Current class size is very beneficial, especially at lower levels
    - Concern funding is focused on class size and taking out flexibility.
- Gillette: Schools are having to increase class size to accommodate teacher pay, which is therefore affecting the mental health of students and teachers.
- Cheyenne: Maintaining current class sizes in smaller schools is difficult.
- Online 2: Classrooms are too small to accommodate the model class sizes

Core Teachers:
Key Takeaway: *None, see Class Size and Salary Level sections for more details on core teacher staffing.*
Overall:
- Many panelists reported that it is getting increasingly difficult to hire core teachers, especially along state borders.
    - More teachers on exceptional authorization than ever before.

Unique:
- No notable unique comments.

Elective / Specialist Teachers:
Key Takeaway: *None.*
Overall:
- No notable comments.

Unique:

- Panelist from Online Session 4 notes that the Bootup 2022 Initiative was an unfunded mandate (requires schools to teach computer science)

CTE Teachers

Key Takeaway: *Panelists do not appreciate the categorical CTE funding and would prefer it to be once again included in the block grant. Furthermore, panelists would like to see middle school CTE included in funding.*

Overall:

- Struggling with hiring, lack of qualified applicants.
- Would appreciate specific job code for middle school CTE.
- Ask for middle school CTE funding.
- Ask for CTE to be expanded – noted it's importance in rural communities.

Unique:

- Gillette: the more CTE classes offered, the more teachers hired which takes away from minimum teachers for core programs.
- Panelists from small districts noted inequity in CTE funding – one example only funded at .66 of a teacher.

Instructional Coaches and Aides

Key Takeaway: *None*

Overall:

- No notable comments.

Unique:

- Cody: Panelist noted that the model funds at 1.5 but the legislature funds at .45 for every prototypical school.
- With the inordinate amount of teachers with exceptional authorization, coaches play a vital role in schools. Online 4 suggests funding at 100%.

Substitutes

Key Takeaway: *None.*

Overall:

- No notable comments.

Unique:

- Cheyenne: Substitute shortage is a problem that has affected many districts.
- Online 3: Substitute wages in the model are not commensurate with the going rate.

Guidance Counselors and Nurses (and Mental Health Professionals)

Key Takeaway: *Panelists have reported an exponential increase in behavioral issues in schools; not just in SPED students but general education as well. Many sessions referenced the lack of funding for a counselor at the elementary level as a problem and frequently mentioned that a guidance counselor alone may not be adequate; more mental health professionals should be considered.*

Overall:

- These challenges disrupt the learning of the student and their peers.
- Some panelists advocated for the need for counselors for teachers – high level of accountability and expectations for teachers that did not exist before.
    - Lack of respect and appreciation for the position.
- Many students have behavioral issues that do not qualify for SPED – need general ed funding for behavioral specialist.
- Many grants focused on mental health will be ending soon.
- Schools in small communities noted that some resources are simply not available in their communities – if it weren't for school counselors the service would not exist in the community.
- A lot of parents cannot afford counseling for their children outside of school.
- Many panelists noted that the current counselor and social work positions they have are stretched thin responding to emergencies and documenting their work – rarely able to complete the job they were hired for.
- Various panelists were experiencing declining enrollment but increased 401 and SPED populations.
- Comments that the legislature allocated mental health grants. They see that there is a need but rather than one-time funds, it makes sense to roll the money into the model.
- Nurses are underfunded, a lot of medically fragile children are coming into schools. Panelists noted the need for an RN to administer prescriptions (e.g. insulin); an aide is not enough.
    - Childhood diabetics have skyrocketed.
- Burden on nurses: Due to legislation, if there is any change in mental or physical health, that must be communicated to families.

Unique:

- At the high school level – a panelist from Cheyenne noted that the rate at which students earn credit could be an easy metric for evaluating need in this area.
- Caution surrounding telehealth – especially at the elementary level.
- A representative from Powell noted that they have one counselor at each elementary. Two in each middle school, and three in each high school, as well as a district-wide social worker for SPED and middle school SPED counselor; they have seen significant improvements as a result.
- A panelist from Cheyenne noted that their Elementary counselor does a lot of proactive work – teaching students social skills and building trust.

Principals and APs

Key Takeaway: *None*

Overall:

- No notable comments.

Unique:

- Cheyenne noted a lack of support for teachers due to busy schedules of principals and APs, especially with the rising behavioral issues.

PD and Training

Key Takeaway: *Many panelists felt that professional development is underfunded and that teachers need training to address the increased behavioral challenges of students.*

Overall:

- Need something in model to get ESPs the training they need, especially in regards to increased behavioral issues.
- Need for teachers to receive training for increased behavioral issues.
- Professional development is underfunded.

Unique:

- Gillette discussed the training needed to meet literacy expectations, noting that since they have seen success, the training cannot end with the grants going away and therefore it should be included in the general fund.

Assessments:

Key Takeaway: *None*

Overall:

- Assessment funding is inadequate to cover all subjects needed.
- As they move towards logic-based learning and seven competencies of a graduate, there are increased costs of assessments.
- Districts are covering AP tests and the ACT out of pocket.
- Noted the difficulty of the state test and the need for communication/ building understanding about why students may look like they are low-achieving.

Unique:

- No notable comments.

Technology and Equipment

Key Takeaway: *Panelists agreed that technology is underfunded, with increasing costs from various areas.*

Overall:

- Technology is incredibly underfunded – the following areas have contributed to increased technology expenses with no additional funding:
    - Software subscriptions
    - Software to run state-required reports.
    - Desktops for business offices, administration, etc.
    - Still have to maintain computer labs to run certain programs that cannot be housed on Chromebook (e.g. AutoCAD)
    - Security: door systems, cameras, cybersecurity, visitor management system
    - POS systems in cafeterias

- Student certifications
- Electronic textbooks
    - Forced into an adoption cycle that printed materials did not, used to have more flexibility
- Small schools and districts incurring cost of licensing – flat based fee for small schools.
- Copy machines are on five year cycles, very expensive
- Lot of "free" apps that have costs after hooking
- licensing instructional materials (textbooks, curricula, license fee every year)
- so much tech that is not instructional (HVAC, fire), cost of maintaining systems
- Infrastructure: servers, routers, etc.
- The internet is not safe, huge management and filter system
- A lot of work for IT to monitor every software that is used
- technology insurance and maintenance agreements (fire alarm, network security)
- schools require a wide array of technicians – technology director, SIS folks, programming folks, electronic keys, etc. they have costs. These staff want to know if they have salary steps like teachers.
- Interactive technology on the wall (e.g., whiteboards)
- Tech support and training and teacher coaching

Unique:

- Panelist from online 1 suggests consolidation of systems (e.g., canvas). Lots of other areas where they could do this. Getting all districts on similar systems would be helpful.
    - Having statewide IT infrastructure vs individual schools and districts trying to figure out and meet their needs would cut down on personnel and training. Joint approach for consistency would be beneficial.
    - Some small districts don't change because cost to switch is high. Statewide contracts would save money.
- Online 1: Highlights that blind (and more broadly disabled) students need to be accounted for when thinking about technology and its expenses.

CTE Equipment

Key Takeaway: *None.*

Overall:

- Many panelists noted that they would prefer the re-inclusion of CTE in the block grant rather than categorical funding. See the section "CTE Teachers" for more details on CTE.

Unique:

- No notable comments.

Extra Duty / Student Activities

Key Takeaway: *Panelists noted that the costs of activities have increased greatly, and the model funding is inadequate.*

Overall:

- Cost of activities are skyrocketing and the model is not properly reflecting that:
    - Cost of officials, uniforms, shot clock and running that, hotel costs, all have shot up
    - Cost of officials: have raised exponentially, one panelist reported that one soccer game can cost up to $1000.
- In such a big state, cannot stop scheduling overnighters.
- Activities are integral to the community; students do better academically and are more invested in school.
- With recent state legislature promoting homeschooling, the schools are still required to allow those kids to participate in all activities. There are lots of cost associated with this that goes unfunded for homeschooled participants.
- Many panelists noted frustration with legislation requiring the participation of homeschooled students in activities with no additional costs to the students, noting that they do not receive funding for these students.

Unique:

- When a representative from Cody tried cost efficient strategies and asked the community for donations, the community was upset.
    - Pay-to-play is not really an option – students who need activities the most are the ones who cannot afford it.

Operations and Maintenance

Key Takeaway: *Many panelists argued for this funding to be based off square footage rather than ADM, especially as they face declining enrollment.*

Overall:

- As schools face declining enrollment, their funding decreases for building operations and maintenance despite the building being left unchanged.
- As buildings have more technological aspects (HVAC, generators, elevators), there is an increased need for technical expertise in conducting routine maintenance, which is more expensive.
- It is difficult to attract people to these maintenance jobs when the private sector can pay significantly more.
- Many panelists referenced increased costs associated with the heightened security systems in schools - costs are fixed despite declining enrollment.

Unique:

- No notable comments.

Staffing and Non-Personnel Resources

Key Takeaway: *None*

Overall:

- No notable comments.

Unique:

- Cheyenne mentioned that auditing has increased, increasing what district personnel are required to do but there are not funds associated in the model.

Transportation

Key Takeaway: *Panelists agreed that 100% reimbursement works very well.*

Overall:

- Reimbursement works very well: Wyoming has lots of travel as such a large state (activities, to and from school, field trips), reimbursement has been very helpful.
- Bus quality is an issue that many panelists brought up – more breakdowns than before, a lot of electronic pieces are not as reliable as they once were.
- It is difficult to hire bus drivers and mechanics – even once they receive training they leave.
- There is a cashflow difficulty with 100% reimbursement when it comes to hiring and paying market-rate salaries. If they do not have the cash on hand, they can't hire at the going rate.

Unique:

- No notable comments.

Food Service

Key Takeaway: *Panelists pushed back on the idea that school lunch programs can be self-sustaining, suggesting that there should be an investigation into the cost of food service in the model. Various options were considered, including FTE funding and 100% reimbursement.*

Overall:

- Many schools are facing difficulties getting eligible parents to sign up for FRPL.
    - One school had success by making all students fill out the form and only submitting those that qualified for FRPL. At back-to-school night, they offered a QR code. Found that some parents did not know that they needed to pay for lunch.
    - Children of high-income families are still coming to school hungry.
    - Families that live in poverty but do not qualify for FRPL.
- Many mentioned that a 100% reimbursement would be ideal.
    - Many also noted that if 100% reimbursement tied them to the National School Lunch Program, they would consider this a loss. Many schools have seen success in leaving the program: increased participation, less food waste, increased nutrition, decreased food costs.
    - Compliance with the NSLP is difficult and does not work well for Wyoming.
- Food service staff are difficult to hire, they are the lowest paid on the salary schedules, leaving them not competitive enough to draw from fast food, especially since they have no benefits.
- Many schools mentioned offering a second-chance breakfast at the secondary level which was been very popular with their students.

Unique:

- No notable comments.

ELL Students

Key Takeaway: *None, only discussed in online 3 and online 4.*

Overall:

- No notable comments.

Unique:

- Increased EL need mentioned in Sheridan County – model is insufficient in meeting these needs.
    - Students that are new to the country require more resources over a longer period of time in order to master English enough to be successful on a standardized assessment.
    - Non-native English families require a lot of support – struggle to find translators, can make more in the private sector.
- Not an appropriate allocation in the model to support long-term ELL student that cannot come out of intensive support.
- Support for a provision in the model for a minimum EL allocation or plan for sudden ELL needs.

Alternative Schools

Key Takeaway: *None.*

Overall:

- No notable comments.

Unique:

- Cody mentioned some alternative schools have decided to be funded as a small school rather than an alternative school for better funding.
- Expressed need for counselor for alternative schools.

Special Education

Key Takeaway: *Panelists agreed that 100% reimbursement of Special Education is incredibly important and works very well. Some noted difficulties in cash flow due to the lag of reimbursement, which affects smaller settings to a much higher degree.*

Overall:

- Advises against SPED cooperatives in Wyoming – too much windshield time.
- Remoteness: being fit to provide services required by federal law is a challenge, very difficult to hire teachers.
    - Special Services personnel know they can ask for a higher rate than before.
- Difficult to budget for SPED, students are very mobile.
- Increasing SPED population despite decreasing enrollment, more pressures on non-SPED staff that are not reimbursable.
- Lag in SPED reimbursement is difficult for cashflow.

Unique:

- There is an assumption that mental health needs are met through special education costs – only 16% of their students (Gillette) on an IEP need mental health support that can be paid for out of IEP.
- One panelist from Online 1 mentioned a lack of support for visually impaired student
    - Average cost per student estimated to be 16k
    - No school for the blind in WY

Salary Levels

Key Takeaway: *Panelists agreed that salary levels are a big issue, with no district paying at the salary levels they are funded at. Panelists noted large increases in difficulties with both hiring and retaining teachers, especially to border states who have since increased their salary levels. Panelists also noted that the levels in the funding are not the levels used by districts; they would like to see increased levels for experience rather than just education.*

Overall:

- Wyoming used to have a salary advantage over surrounding states, but this is no longer true, causing a lot of difficulty in both hiring and retaining teachers.
    - Teachers leaving district employment for online schools
    - Can't just be comparable to surrounding states – need to beat them.
- Lack of graduates from University of Wyoming, losing to online programs.

- Model salaries does not reflect what schools are actually paying
    - Need more levels than just bachelors, masters, and PhD, need to account for experience and teacher learning hours
    - No districts pay under 45k, most are over 50k
- Finds 75% of market pay to be insufficient.
- Model salaries force them to steal from other funding buckets in order to pay teachers adequately.
- Firing a lot more than they used to – kids are starting with new teachers again and again
- It has become clear that new teachers are only looking at net salary, not taking into consideration benefits or cost of living.
- References to discussion about salaries being categorical: many advise strongly against this, many teachers would face a pay decrease, brings up the question of who counts as a teacher, tension between state and local control.
- The model offers salary levels for masters, PhD, and over twenty years of experience, which many panelists feel does not reflect what districts are paying and places too little emphasis on experience. Panelists would like to see an increase in pay steps in the model.

Unique:

- Complaints about administrator salary schedule as well, references annual raises being only $200 for superintendents and business managers.

Health Insurance

Key Takeaway: *Panelists feel a lot of frustration towards the state health insurance premium, with many believing that the state artificially kept rates low in order to keep districts from getting increases in insurance. Panelists agree that they are underfunded in health insurance.*

Overall:

- Lots of animosity surrounding state health insurance premium
    - Belief that the state artificially kept rates low in order to keep districts from getting increases in insurance.
    - Seen as gaming the system.
    - State's plan revolves around large population, where do the people in small districts go?
- Border districts are receiving care in other states, need funding to go to these providers

Unique:

- Some districts are seeing rates rise significantly more (e.g. Powell), but getting same amount through the model.
- Panelist from Cody believes it should be cost-based off the rates they are getting.
    - Would be a great reimbursable

Benefits

Key Takeaway: *None.*

Overall:

- No notable comments.

Unique:

- Online 2: Pension benefits adjustments need to be upped from 11% to 14%

RCA

Key Takeaway: *Panelists appreciate the three options offered and that they never "lose" but note that the RCA does not reflect their true costs.*

Overall:

- Appreciates the three options, don't lose when it goes down.
- Hedonic Wage Index has not been updated since 2005.
- Concern surrounding going to a CWI proposed in the desk audit instead of RCA indexes – there will be big winners and losers.
- Some discussion over RCA lag – may not be quick enough to react to ever-changing landscape.

Unique:

- Advocates for a remoteness bump – high cost of living in remote areas
- Rock Springs: Doesn't play into out-of-state competition.

ECA

Key Takeaway: *Panelists agreed that the ECA would work well if consistently applied but felt frustration that it has not been.*

Overall:

- ECA works well when consistently offered.

- 8.5% raise is based on model pay, which no school district offers.
- Advocates for health insurance and technology to be in the ECA.
- Complaints surrounding utilities decrease in ECA – no one saw decrease in utility costs.

Unique:

- Cody: "If the legislature had provided adequate ECAs every year like they were supposed to, they never would have gotten sued"

Items Discussed Outside of EB Model Elements:

Block Grant

Key Takeaway: *Panelists reported that the flexibility of the block grant is integral to the success of the funding model, allowing each district to serve the unique needs of their communities. Panelists fear the increased usage of categorical funding will harm this flexibility.*

Overall:

- Block grant incentivizes efficiencies since saved dollars can be used elsewhere.
- Categorical grants harm this flexibility and therefore districts.
    - Some argued that categorical grants do not incentivize efficiencies since dollars can only be spent on specific items and no benefit to savings.
    - References to discussion about salaries being categorical: many advise strongly against this, many teachers would face a pay decrease, brings up the question of who counts as a teacher, tension between state and local control.

Unique:

- Cody referenced the CTE categorical grant and the inability to fund middle school CTE nor CTE equipment repairs with the categorical dollars.
- Rock Springs referenced statutory requirements that do not include funding, noting that the flexibility of the Block model allows them to adjust for these mandates.
- One member from Online Session 1 advocated for the inclusion of SPED funding in the block model due to lag in reimbursement
- Online Session 2 appreciates the transparency and predictability of the model, allowing ease of decision-making.
- One member from Online Session 4 noted that the block grant causes the school board to be more invested in their work.

SROs:

Key Takeaway: *Overall, panelists were in agreement of the importance of SROs in schools, especially with the repeal of gun-free zones in schools. The increased behavioral issues among students was also referenced frequently. Panelists agreed that SROs should be hired in conjunction with local law enforcement to ensure proper hiring and that the unique needs of their community are met, emphasizing that this should not be a "one size fits all" implementation at the state level.*

Overall:

- Police are facing same hiring issues in some districts

- Overall, like the idea of the hiring and role to come through the school district's partnership with local law enforcement rather than the state
    - Allows district needs to be met by the role, more ownership
    - Recommends contracting with the county or city rather than employing SROs directly.
- Many argue SROs are more important with guns in schools, now an expected member of the school from the community
    - School staff cannot ask to see conceal carry license or prevent anyone from entering – incredibly helpful to have law enforcement who can.
- SROs are forming great relationships with the students
    - Kids can starting seeing law enforcement as an ally instead of enemy.
- Some smaller schools can't afford SROs, still need support, need to feel safe
    - Concern with small, rural schools. They are 20 min from any law enforcement services for an emergency call. The funding would need to address how small schools can have access to SROs. It becomes an equity issue.
    - Some communities SRO is not a realistic option, would like SRO funding to be used for other safety mechanisms
- Takes a certain skillset to be an SRO, law enforcement already facing staffing shortages, difficult to hire
- Difficult to share with great distances between schools, could be 90 minutes away from an emergency.
- Having an SRO is helpful for legal concerns, handle situations that would normally be handled by law enforcement.
    - Searching a student
- Caution as they move into SROs is that there needs to be a plan to fund replacement equipment (cars, vests, weapons). This is not just a salary issue. Cost for a 1 FTE SRO is higher than it would be for a teacher due to these things.

<u>Unique:</u>

- Many districts have independently implemented SROs with a lot of success:
    - Pay additional time for SROs to be at activities and events, usually overtime
    - Wrote MOU very carefully - no blurred lines, SRO is not for discipline, involved with criminal acts (e.g. vaping, assault), MOU is critical piece to decide how to use SRO
    - Requires 40 hours of training from SRO.

Other Insurance and Legal Costs

Key Takeaway: *Panelists agreed that insurance and legal costs have increased greatly and they are currently underfunded for it. Many panelists referenced the PowerSchool hacking and repeal of gun-free zones in schools as events that have contributed to increased insurance.*

<u>Overall:</u>

- Big impact on insurance costs from PowerSchool hacking
- Increased insurance based on repeal of gun-free zones in schools.

- Cost of audit and legal fees have gone up significantly, required contracted services.
    - Getting hit with questions they need to consult an attorney for - current political landscape makes schools a battleground.
    - Parental notification and DEI - parents looking specifically at staff and schools for litigation.
- So much additional reporting at the central office from meeting legislative pushes
- Cyber liability insurance has increased.

Unique:

- No notable comments.

Paras and Aides

Key Takeaway: *None.*

Overall:

- No notable comments.

Unique:

- Gillette: Emphasized the importance of aides, noting that one teacher cannot implement best practice in a classroom alone – aides are needed.
- Online 1: Recommends breaking out different aspects of certified and non-certified staff in the model.
- Online 1: one panelist believes that quality paras help with teacher retention, though notes lack of research to support this.
- Online 4: Would like interventionist at the secondary level.

Homeschooled Students

Key Takeaway: *None, Rock Springs discussed this the most in length.*

Overall:

- No notable comments.

Unique:

- Rock Springs: Data shows that homeschooled students are more expensive when they return to school, but students who come back to school with gaps are not funded.
- One panelist noted that the dropout rate is significantly impacted by homeschooled kids coming back to school.
- Cheyenne noted that in-person education is better than virtual. They acknowledged the cost savings but also do not want to strip public education by following a cheap route of going virtual.

Virtual Schools

Key Takeaway: *None.*

Overall:

- No notable comments.

Unique:

- Online 2: Expressed need for virtual schools in the funding model – have high student to teacher ratios and do not receive Title I funds.

Small District Adjustment

Key Takeaway: *Overall, this is considered positive, though there are concerns over funding cliffs and partial FTE.*

Overall:

- Difficulty surrounding hiring for FTE
- In very rural, remote areas fractional FTE is difficult- would have to drive very far to attend multiple schools and the staffing shortage exacerbates this issue.

Unique:

- No notable comments.

Cash Reserves

Key Takeaway: *Many panelists argued that cash reserve allowance needs to remain at 30%, referencing the wait for reimbursable payments and unexpected costs.*

Overall:

- Residential placements – there needs to be concessions for districts who don't have the cashflow
- Advocates for keeping it at 30%
- School districts struggle with a lot of unexpected costs
- SPED and transportation reimbursable – wait for reimbursement can get scary, need reserves to safeguard.

- Calculation changes: when reserves were capped at 15%, reimbursables (including SPED) were included in this calculation. However, the 2022 legislation increased the reserve cap 30% but excluded reimbursables in this calculation. Many districts now fear going back to 15% as it would likely continue to exclude reimbursables, limiting their reserve allowance further than ever before.

Unique:

- No notable comments.

Recalibration

Key Takeaway: *Panelists appreciate the EB Model and recalibration every five years but feel frustration when the legislature seems to ignore findings from the celebration.*

Overall:

- Appreciates the 5-year recalibration schedule – allows stakeholders to have a voice.
    - "Theory of recalibration works well but legislature ignores the advice."
- Encouragement that the EB provides in terms of direction is helpful.

Unique:

- No notable comments.

Suggested Efficiencies

Key Takeaway: *None, the following are unique comments/ideas on opportunities to improve efficiency heard across the various panels. However, many panelists noted that the nature of the block grant incentivizes efficiency.*

Overall:

- Districts are already working towards efficiency; the nature of the block grant encourages it.

Unique:

- Curriculum co-ops have serviced and provided resources for multiple districts rather than each district doing it all on their own.
- Someone at the state who could go out to bid on things would be helpful. A lot of opportunity for the state to assist with getting bids to help bring costs down.
- Statewide IT infrastructure vs individual schools and districts trying to figure out and meet their needs. This would cut down on personnel and training. Joint approach for consistency would be helpful
- Spend 42k a year on HR software, do all subs, contracts, time and effort for hourly, and hiring through that - replaces a human that costs 82k
- There is lots of information that the state collects that it doesn't need (she cites forms 602 and 652 as examples).
- A reduction in state reporting requirements would cut down on district and state staff. Lots of staff are needed to produce reports.
- The way major maintenance is funded is not efficient; it promotes letting schools fall into disrepair to get reimbursed (minor expenses are harder to prove a need for).

EB Aspects not Mentioned in Panels:

- Three-Tiered Approach
    - Student Counts
    - Prototypical Schools
- Effect Sizes
- Staffing for Core Programs
    - Full Day Kindergarten
    - Minimum Teachers
    - Core Tutors/Tier II Intervention
    - School Site Secretarial Staff
- Dollar Per Student Resources:
    - Gifted and Talented Students
    - Instructional Materials
- Resources for Struggling Students:
    - Tutors
    - Pupil Support
    - Extended-Day Programs
    - Summer School
    - School District Finance Audit Process

Small Schools and Districts Panels Themes

In August, two professional judgment panels were held to specifically discuss the resources needed in small school and district settings. The following summary identifies key themes that emerged during these discussions.

K-12 Consolidation

Main Takeaway: Panelists believe school funding should not differ if a school is consolidated, but rather focus more on the grade levels and courses necessary, including what accreditation is needed for these courses.

- Panelists agreed that they did not want to address K-12 schools, noting that what is best for elementary, middle, and high schools does not differ for K-12 schools.
- One panelist with experience with a K-12 school noted that they are funded for a teacher at each grade and a specialist at each grade level.
- They noted that there are many nuances associated with K-12 funding, making communication to staff, community, and teachers difficult. They seek a better way to explain how they get their money and how they spend it.
- Panelists argue that funding should not matter by designation, noting that there are more alternative and consolidated schools than in the original 2005 model.
- Panelists feel funding, especially at the high school level, should focus more on the courses offered and the accreditations necessary to teach these courses.
    - E.g., what is the minimum number of teachers you need with X accreditation?

Certifications and Endorsements

Main Takeaway: It is much easier to combine classes at the elementary level, where teachers are elementary endorsed. This becomes difficult in high schools, where different courses require different accreditations.

- At the elementary level, combined classes are much more common since elementary teachers are elementary-endorsed.
- This becomes much more difficult at the high school level as endorsements are not as transferable.
- Argue their students should not be offered less opportunities because of where they live.
- With regards to computer science, if a school does not have the minimum amount of teachers, they cannot offer the course, leaving them out of compliance.

Different Modalities to Course Offerings

Main Takeaway: Panelists feel that it is unfair that their students are subject to worse instruction through online courses due to their location.

- One panelist argued against online course offerings, arguing that their students should not accept a worse form of instruction due to their location.

Elementary Schools

Class Size

Main Takeaway: The 16:1 ratio is unclear as to when a new teacher should be hired. Panelists noted that while it might not be necessary at 17 students, 31 is an unmanageable amount in one classroom.

- When discussing class size, panelists wondered when a second teacher is received at the elementary level: at 17 or 32 students?
- Caution was suggested when getting prescriptive, as legislatures will want to ensure funds are being used accordingly, detracting from the block grant.
- One panelist noted that while 23 kids in a classroom is manageable, 31 is not.

Teachers (including minimums)
Main Takeaway: Panelists agreed that one teacher per grade level is an adequate minimum, emphasizing that defined minimums help to mitigate the effects of funding cliffs.

- At the elementary level, panelists agreed that one teacher per grade is adequate, with an extra 0.3 FTE to move around as needed.
- Panelists agreed that this still applies at 50 enrollment to help mitigate the cliff.
- Panelists agreed that they would prefer defined minimums.
- One panelist noted that the 1:7 ratio was originally intended to be applied to rural schools and was never supposed to be applied up to 49 students. Rather, it was meant to act as added compensation for small, rural schools.
- Panelists agreed the model works and should be used once a minimum is reached. However, there should exist minimum staffing prior to having the model take over to assist with funding cliffs.
- Suggests having minimum staffing and rounding to the whole number to avoid partial FTEs.

Elective/Specials Teachers
Main Takeaway: At a minimum, panelists agree that they must offer P.E., Art, and Music to their students. They argue that they need to be funded at 1 FTE per position to hire them, and then they can use that position to help in other areas as necessary once they are hired.

- Panelists noted that the requirement of Computer Science did not include any additional funding to cover staffing and technology.
- For all levels, panelists noted that at a minimum they need funding to cover P.E., music, and art.
- Panelists reiterated difficulty with partial FTE and hiring- noting that they cannot convince someone to move for a part-time position.
- Dual certifications were also addressed here, noting that it is difficult to find someone who can teach multiple classes.
- Panelists noted that they have had success with their elective teachers helping out in other areas, such as a music teacher acting also as a reading interventionist and an art teacher assisting in the library.
- Panelists reported that if they can get properly funded for the elective positions, they can begin using those FTE to help in other areas (librarian, tech. co-teaching other classes)
- Panelists emphasized that the need to hire and get the position in the door before they can get them to help in other areas.

Instructional Facilitator/Coach
Main Takeaway: Panelists agreed that funding for instructional coaches is difficult, with some funded at 0.1 FTE. They agree it is a necessary position at every building, though once

enrollment reaches 25, the position can be divided into 0.5 Instructional Facilitator FTE and 0.5 Assistant Principal FTE.

- Panelists emphasized the importance of instructional facilitators, but difficulty hiring when they are funded at such a small level.
- Panelists believe that it is necessary at every building.
- Believe it can be dropped at enrollment of 25, with the AP acting as both the AP and instructional facilitator.

Library/Media/Computer Technician

Main Takeaway: Panelists agree that this position is helpful in ensuring teachers can focus on teaching rather than their technology. Panelists described this position as very busy and necessary for day-to-day operations, though it is currently not funded.

- Panelists noted that this position is very busy and not funded, highlighting that teachers would spend too much time focused on technology rather than teaching without this position.
- One panelist recommended a technology instructional facilitator to help teachers understand their technology.
- Panelists recommended it even at the 25-enrollment level.

Counselor/Pupil Support

Main Takeaway: Students in small and rural areas are facing the same issues as those at larger schools but are not receiving the same level of help. Panelists also noted the hiring difficulties with this position, including large amounts of windshield time when sharing with other schools and the lack of qualified personnel. Panelists also note that funding is determined by the at-risk student population, though many students who are not at-risk still require mental health supports.

- Panelists noted that across all support positions, they receive 0.9 FTE, not aligning with the mental health priority in the state.
- When discussing sharing this position between buildings, panelists emphasized the windshield time this would cause, losing a lot of the effectiveness of the position.
- Panelists noted that their students are facing the same mental health problems as those of larger schools and districts while receiving less support.
- One risk assessment takes a whole day, the position is not covering the support students need.
- Very difficult to access private care in these communities when students need support outside of what the school can offer.
- Support can depend more on need level than the number of students.
- Panelists noted that staffing for these positions is currently dependent on at-risk students, though there are many students who need support and are not at-risk.
- When discussing adding more mental health positions to schools, panelists noted that it is difficult to fill these positions—there are not enough people to hire, regardless of salary.

Nurses

Main Takeaway: In rural areas, it can take ambulances upwards of an hour to arrive, making the nurse's presence in school very important. Many struggle with hiring and sharing the position with other schools and communities.

- Panelists noted that in rural WY, it can take an ambulance an hour to arrive, making nurses a safety necessity for their schools.
- For a panelist who shares a nurse with a nearby district, they note that though some students need a full time nurse, they are not being seen due to the divided time.
- Panelists emphasized that nursing needs can depend largely on the needs of individual students, varying from year to year.
- One panelist noted that since their nurse is not full time, they have the, train various other staff in administering medicine, though they would prefer not to do that.
- When discussing sharing nurses with surrounding communities, one panelist noted that some rural towns do not even have medical services to share with. There would be an inability to hire, even if they had the money to do it, though they note the funding would still prove beneficial.
- Return to discussion on benefits of block model.

Assistant Principal

Main Takeaway: Panelists agree that it is difficult to hire this position with only 0.5 FTE funded.

- A panelist was frustrated with 0.5 FTE for AP in the funding model, noting that they cannot hire half of this position. They warn combining with instructional facilitator could diminish the effectiveness.

SROs

Main Takeaway: With limited police presence in some communities, an SRO would be very beneficial.

- Police response can be 25 minutes at best, having an SRO would be largely beneficial.
- One panelist noted that due to the size of their district, a district-shared SRO could be 100 miles from one school while located at another.

Cost of Living

Main Takeaway: The cost of living in rural areas has made it so that it is difficult to hire when teachers cannot afford to live in their communities.

- Panelists reported deficits in applications when hiring, especially with rising housing prices in rural areas.
- When teachers must live outside the community, panelists noted large travel and wear and tear costs on their cars that should be compensated.
- Panelists argued that calculating the salary at anything under 100% was insulting and wrong.

High Schools

Class Size

Main Takeaway: While the small class sizes are beneficial, they find themselves with limited course offerings for their students, especially in terms of CTE.

- One panelist noted that the minimum class size of 10 was appropriate in 2005 and was originally intended to apply to all high schools regardless of size with no cutoff at 49.
- Argued that a high school of 25 students should have the same opportunities as that of 200 students

- With class sizes ratioed at 21:1, the issue becomes scheduling
- Hard to maintain small class sizes while maintaining course offerings
- Panelists agreed that the minimum of 10 teachers at the high school level does not allow them to offer as many courses as they would like, especially when considering CTE.
- Credentials were brought up, especially in regards to the Computer Science requirement.
- Panelists agreed that their students would have more opportunities at larger schools.
- Panelists also highlighted the creativity they employ to offer their students opportunities that may not be evident when looking into their staffing, such as working with community colleges to offer AP courses.
- They note that the cannot always find the staff to teach a course so they must look into other areas to provide their students with the services they need.
- They also note that it is hard to predict which pathways students will choose, with many going back and forth.

Teachers
Main Takeaway: Panelists do not like that CTE is not broken out from teacher funding until the minimum enrollment is hit.

- Panelists do not appreciate that CTE is not separate until one falls out of the minimum staffing, arguing that it does not allow them to properly provide CTE in addition to core classes.

Instructional Facilitator/Coach
Main Takeaway: There needs to be one instructional facilitator at every school above 50 students enrolled, in which case the FTE can be split with the Assistant Principal position.

- Agree with discussion at the elementary level: one instructional coach at every school until enrollment hits 50, in which case the FTE is split with the AP.
- Further emphasis on this funding when discussing the importance of developing and implementing PLCs, noting that this work can be very beneficial.

Library/Media/Computer Technician
Main Takeaway: Librarians and library technicians are very important to assisting teachers with their technology and facilitating online courses.

- Panelists agreed that librarians can help teachers find resources and are a great space for students.
- This is also where their students go for online classes, library tech assists, great to have to fix issues.
- Panelists agreed that this is a high-need position in high schools
- Help to facilitate kids in online courses.

Counselor/Pupil Support
Main Takeaway: This position is very busy and incredibly important.

- With emotional, guidance, and career counseling, this position is very busy
- One panelist noted that their counselor spends so much time working before and after school that they add two weeks to their contracted time.

Cliff Effect

Main Takeaway: Guaranteed minimums work to protect from funding cliffs. Panelists noted difficulties in partial FTEs, citing various certifications and grade-level differences,

- Causes hundreds of thousands of dollars to disappear with the loss of one student.
- Small district funding acts as a cushion
- Guaranteed minimums allows them to provide whole basket of goods.
    - Suggests minimum 8 in MS and 10 in HS
- Minimums protect from funding cliffs.
- <u>Difficulties with incremental FTE:</u>
    - Especially at the secondary level, panelists reported difficulties with splitting FTE when different positions require different certifications.
- <u>Class size:</u>
    - Panelists noted that the model should turn to class size rather than school size, noting that many variables change by year/grade.
    - One panelist refused to combine grades for math and literacy at the elementary level, citing the intensity and differences of the courses by grade. The panelist stated that combing would detract from the quality of education.
        - The panelist noted that this did not apply to P.E., science, social studies, etc.
    - Another panelist noted that they do combine across elementary grades, noting the importance of their locally-elected board to decide what is right for their community.
        - Three classes are combined with 2 teachers, though the panelist noted that without the right teachers, this would not function properly.
    - Local control and community-based decision-making regarding class size and consolidation were cited often by panelists in this discussion, with an emphasis on the importance of the block grant.
    - One panelist reported that the minimums at the middle school and high school levels are working, and that there is no need for adjustments there for small schools.
        - Panelists noted the creativity and resourcefulness small districts must employ, highlighting their value of every dollar that they are funded. They emphasized small schools and districts as a strength of Wyoming.

Separate Schools/Co-Location v K-12 Consolidation

Main Takeaway: Consolidation, when imposed by WDE, is not well received. Panelists who voluntarily consolidated reported doing so for efficiency reasons and saw a very small effect funding-wise.

- Many wonder why there is such a difference, especially when looking at advantages and disadvantages of consolidation and why they occur.
- One panelist reported their experience on choosing to combine their co-located schools since they were in one building
    - At the time, lost 60-70k, not a big amount for them.
    - Advantage: without combining, they would have been funded under 49
    - They consolidated for efficiency reasons rather than funding reasons and do not regret it as their central office is much easier to operate.

- A panelist reported a "bitter taste" left when consolidating was done unto them by the WDE rather than choosing themselves to consolidate.
    - When working with e-rate, moving from 4 schools to one cut e-rate funding from 100k to 25k.
- Panelists wondered about the advantages and disadvantages surrounding school consolidation and reasoning behind it.
    - A panelist noted that benefits and disadvantage could happen on any given year when looking at the cliff effect – what benefits you this year may not be the same the next.
- A panelist emphasized the block grant and the model acting as a funding, not spending, model.
    - Will spend the dollars the same once they arrive, not going to change how they operate the school.
- When asked if a district size or school characteristic-based alternatives were offered, where the district got the higher of the two, would be beneficial, panelists expressed wariness over introducing another uncertain aspect into the funding model that would lead to more confusion.

District Consolidation

Main Takeaway: Panelists cautioned against district consolidation, citing geographical distances, local control, and funding efficiencies in terms of salaries.

- Panelist emphasize importance of a local board in charge of programming, fears that consolidation would detract from this.
- Another panelist argues that with district consolidation, small school and district salary schedules would be raised to that of other districts, increasing costs (not efficient nor money-saving).
- One panelist noted their previous experience in a state with similar student counts but vastly smaller in geographical size, emphasizing the role distance plays in Wyoming schools and districts.
    - Tried sharing positions across schools in the district – ran into problems regarding lodging, timing, and inclement weather.
    - So many aspects that prohibit working with each other
    - Some distances would require 4-5 hours of windshield time
- Argues consolidation is already evident in small districts as many roles are shared across a single FTE/position.
- Notes that student need plays the largest role: "All you need is one student with sever needs to turn everything upside down."

Reimbursements and Cash Flow

Main Takeaway: Panelists noted that absorbing the current costs for reimbursable expenditures while awaiting reimbursements can be difficult, especially with their low budgets. They strongly urged against lowering cash reserves below 30% guaranteed, noting that the reserves are actively being used, rather than sitting stagnant.

- Many panelists noted struggles to have the money to spend that they would eventually be reimbursed for.

- Panelists noted that with 30% cash reserves, they are positioned to cushion the reimbursable wait.
    - Concern: 15% of guaranteed does not cover the cost of one student in placement.
    - Argues 30% is even stretching it with their small budgets:
        - One expensive student can easily take all of it, causing them to lose their carry-over to pay other bills in the meantime.
- Reserves are being used every year to cashflow until they get the reimbursement—not sitting stagnant.
- One student with intensive needs / out-of-state placement is 700k.
- Argues for three months in reserves, noting that 15% does not cover this (maybe 45 days), 30% gets closer.
- One panelist from a recapture district noted that declining enrollment with the check to the state has been very difficult.
- Suggestion for state to pick up expenses and not involve districts.
- When discussing out-of-district placements, a panelist argued that it is not a rare occurrence, with them having out-of-district placements every year costing 300k.

SROs

Main Takeaway: Panelists were strongly in favor of funding SROs, citing the repeal of gun-free zones and crime in rural communities. When 100% reimbursable was suggested as a funding mechanism, panelists reiterated the difficulty of 100% reimbursements but noted it was better than no funding. Panelists strongly encouraged against equating SROs and counselors, noting that counselors are already overwhelmed and are not equipped to handle dangerous situations.

- Panelist noted that they feel very fortunate to have an SRO, citing community support and a trusting police figure for students.
    - Not only there for emergencies (bullying, positive relationship with police figure)
- When discussing 100% reimbursement as a potential funding mechanisms for SROs, panelists noted the difficulty with paying for the position in the current when waiting for the reimbursement, often having to cut away from other things in order to cover the costs in the present.
- A panelist noted that while the call for SRO funding has been evident for some time, it has become more vocal in the state with the repeal of gun-free zones
- <u>Law enforcement in small/rural communities:</u>
    - One panelist noted the crime associated with small districts/rural communities, as fugitives will often be found hiding in these communities.
    - Having a sheriff's car parked in a parking lot can be a great deterrent to crime.
    - In Park County, the sheriff services law enforcement for the county, with Fish and Game often being the earliest responder (not SWAT trained).
- When discussing the overlap of counselors and SROs, panelists cautioned against equating the two:
    - Counselors are already incredibly busy with counseling the students, more emotional counseling than guidance.
        - Career and guidance counseling on top of addressing the other student needs.
- Counseling will not do anything for students who are already dangerous (e.g. expelled students)

- Need SRO to be available to handle dangerous situations, especially with the introduction of open carry.
- Both are very important and distinct positions.

Model Salaries

Takeaway: Model FTE is correct, but salaries are not.

- For small districts, the FTE of the model works, but it fails when the FTE are compensated at a rate lower than 100%.
    - While the FTE is correct, since the dollars are inadequate, they cannot hire the model FTE.
    - If funding does not match the FTE, the model FTEs do not matter.
    - Model salary is not meeting their lowest base salary.
    - Need to consider what districts are actually paying teachers.
- A panelist noted that while they may have the funds to increase salaries presently, they are unable to provide raises with the uncertainties from the funding model.
    - Cannot be certain that in five years they will have what they have right now and afford it.
- Argues that though teachers work on a shorter calendar, their total hours accumulate to more than that of the average worker, argues for salary funding at 100%.
- Notes that staff cannot afford housing in small rural districts where housing costs are the same as that of the bigger cities.
- Argues that when looking at neighboring states to set a competitive teacher salary, we are starting from a false standpoint.
    - Teachers in other states don't make enough money—need to start with how much they *should* be making. (Larry notes that they are also looking at other jobs within the same market).

Remoteness

Main Takeaway: In some districts, the distance is so large that students cannot be served in one location.

- Panelist suggest square mileage as a fairly good indicator to the need of multiple schools vs. one.
    - Some districts have such great distances that there is no reasonable assumption that all students can be served in one location.

APA Small School Memo

To:	Picus Odden and Associates, Wyoming Legislative Service Office Staff
From:	Amanda Brown, APA Consulting
Subject:	Small Schools Size Adjustment
Date:	October 6, 2025

Both the Wyoming Funding Model and the EB Model differentiate how schools are resourced above and below 50 students. For grade bands with at least 50 students, schools receive staffing allocations following the EB Model and are guaranteed a minimum number of teaching positions. Below 50 students, schools are resourced with a 1.0 FTE assistant principal (AP) and teachers at a ratio of 1 per every 7 students.

As a result of the difference in the allocated resources above and below the 50-student threshold, particularly the minimum teacher position requirements, schools experience significant funding loss for when ADM changes minimally (even just going from 50 to 49 students) creating a funding "cliff" for small schools. This issue has been explored in depth in the 2020 recalibration, as well as previously in APA's 2017 study, with different scenarios proposed for how to modify the funding model to remove this funding cliff.

APA recommends that instead of the current approach to resourcing schools with less than 50 students, funding should be gradually reduced based on a school's ADM. Under the current Wyoming Funding Model, APA would recommend that schools with fewer than 50 students receive 1.5% less funding for each student below 50 ADM, compared to the funding they would receive at 50 ADM. The intention is to have a smooth, linear transition from the resources a school would receive with 50 students down to the minimum resources a school would receive with 1 student (in the current Wyoming Funding Model, this minimum is 1 teacher and 1 AP).

For example, a school with 20 students would get 55 percent (30 x 1.5, or 45 percent, less) if the funding of a 50-student school, while a school with only 1 student would generate 26.5 percent of the funding of a 50-student school (49 x 1.5, or 73.5 percent less), which would be consistent with the funding currently generated by the minimum staffing in the Wyoming Funding Model.

This approach would eliminate the funding cliff that schools experience when their ADM drops below 50 students and provide a gradual reduction in funding that ensures no school receives less than they do currently (and in most instances funding would be meaningfully higher).

In the future, if any adjustments are made to the minimum number of staff positions at any given school size point, it is straightforward to calculate the percentage difference in funding by ADM to continue to ensure a smooth funding transition.

The following comparison charts and table demonstrate the current funding cliffs that exist in an example district, as well as the proposed approach.[36]

Chart A. Comparison of Funding Received at a School of 49 Students, as Percentage of Funding at a 50-Student School

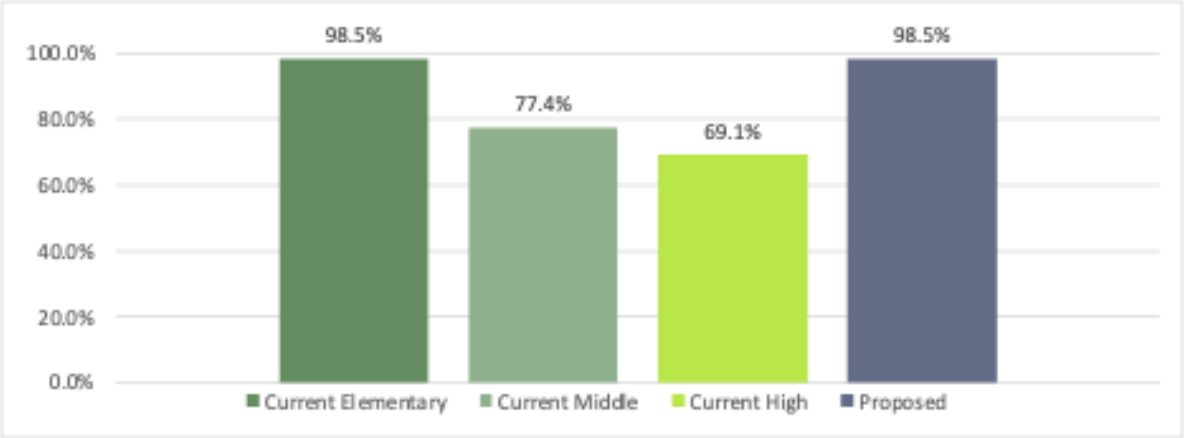

Chart B. Comparison of Size Adjustments as Percentage of Funding at a 50-Student School

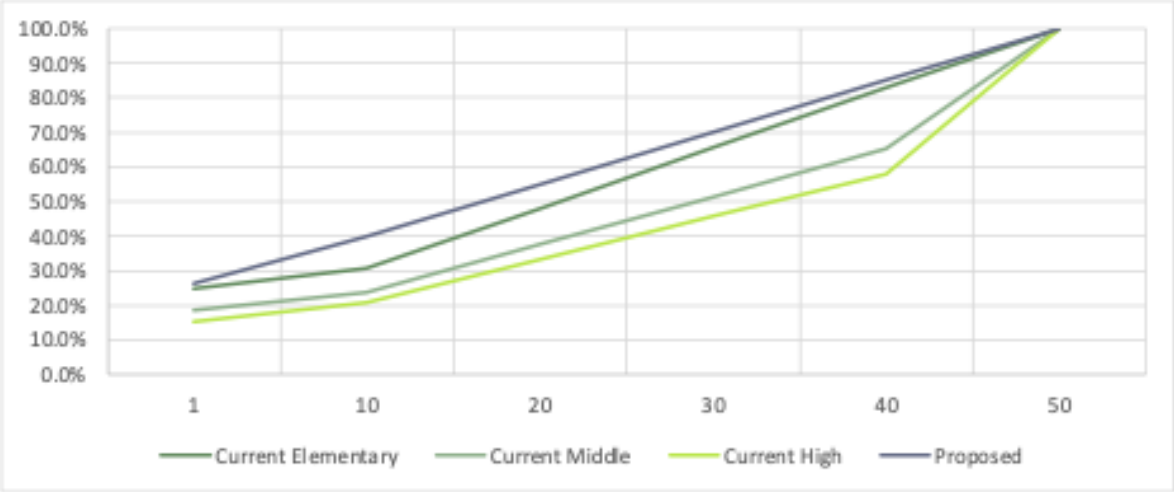

Table A. Comparison of Approaches at Different School Enrollment Points, Percentage of Funding at a 50-student School

# of Students	1	10	20	30	40	49	50
Proposed Approach	**26.5%**	**40.0%**	**55.0%**	**70.0%**	**85.0%**	**98.5%**	**100%**
Current Elementary	25.0%	30.8%	48.2%	65.5%	82.9%	98.5%	100%
Current Middle	18.6%	23.9%	37.7%	51.5%	65.2%	77.4%	100%
Current High	15.2%	20.7%	33.3%	45.7%	58.1%	69.1%	100%

[36] These charts are offered as illustrative examples. Each district generates different funding based on (1) their district's salaries and (2) individual schools vary slightly in the additional resources for struggling students they receive based on their demographics, as such the observed relationship between size and funding varies slightly.

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(Those with an asterisk* refer to randomized controlled trials.)

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