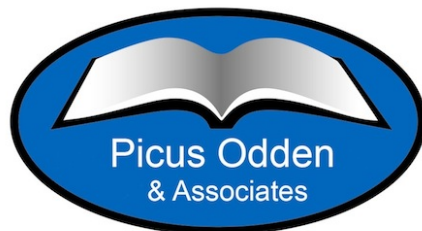


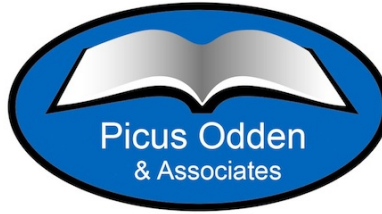
A PROPOSAL TO CONDUCT AN EVIDENCE-BASED STUDY OF THE COST OF AN ADEQUATE EDUCATION IN VERMONT



**Submitted To
The Vermont Legislative Joint Fiscal Office
1 Baldwin Street
Montpelier, VT 05602**



**Submitted By
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June 29, 2015

Stephen Klein, Chief Fiscal Officer
Mark Perrault, Fiscal Analyst
Legislative Joint Fiscal Office
1 Baldwin Street
Montpelier, Vermont 05602

VIA E-MAIL

Dear Mr. Klein and Mr. Perrault:

On behalf of Lawrence O. Picus and Associates, LLC, doing business as Picus Odden & Associates, I am pleased to submit the attached proposal to conduct a *Study of the Cost of an Adequate Education in Vermont*. As this proposal demonstrates, we have vast experience in the field of school finance and have worked with a large number of states (including Vermont) to evaluate, design and implement school funding systems that address both fiscal and achievement equity.

We propose to conduct an Evidence-Based school finance adequacy study to estimate the resources needed to provide all Vermont school children with an equal opportunity meet the State's educational performance standards. Our Evidence-Based approach to school finance adequacy, developed by our firm's principals, Lawrence O. Picus and Allan Odden, is at present the most widely used method for estimating school finance adequacy among the 50 states and today is the basis of school finance formulas in several states and used to estimate adequate funding levels in many more.

Our Evidence-Based approach relies on educational research to identify the strategies and resources needed to provide all students with the means to be prepared for college and/or careers. This approach relies on the vast body of educational research, and focuses on the growing number of randomized control research studies that have led to many new insights into how educators can improve student learning and how educational resources should be allocated and used to ensure that learning is achieved. We believe that experimental design research studies help to better inform school reform and provide important insights into how schools can use

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resources to improve learning for all students. Other approaches for estimating school finance adequacy often ignore or minimally use current research, which we believe is a mistake.

We propose a highly interactive approach to conducting this study. We will work closely with officials from the Joint Fiscal Office, the Agency of Education and other state agencies as appropriate, as well as with the broader education community including important stakeholders, working educators, and others who can help us identify the resources needed to help Vermont schools ensure all students succeed. In addition, as described in our proposal, a critical component of our Evidence-Based approach is to always have the core recommendations reviewed by leading educators in each state where we work. Because our estimates are derived within an Excel simulation model, our project will provide the state with the simulation capacity to both estimate adequacy in the future, and to model alternative resource and school organization options well beyond the end of this study.

We are deeply familiar with education finance issues in Vermont having been involved in finance and policy analyses in the state since the late 1990s. Our past work, including analyses of Acts 60 and 68, will help us begin this work immediately and enable us to identify the resources necessary to conduct our study within the context of House Bill No. 361 and the educational and financial reforms called for in that Bill.

We also note that much of our previous work has been done in states with substantial numbers of small and rural schools and school districts. We have been instrumental in developing funding systems that support the unique needs of these schools and in finding ways to help small and rural schools provide effective and efficient education programs for their students. Most of the reports we have prepared for states are available on our website at www.picusodden.com.

My signature on this letter certifies that Lawrence O. Picus and Associates, LLC (doing business as Picus Odden & Associates) will meet all of the State's certifications and requirements listed in the RFP. It also certifies that, to the best of my knowledge, none of the staff or subcontractors proposed to work on this project have any conflicts of interest that would preclude their participation should we be the successful bidder. I also certify that the information contained in this proposal is accurate. Finally, I guarantee the terms and price of this proposal for at least 90 days from June 30, 2015.

I may be contacted at the following:

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All communications and correspondence related to this proposal should be directed to my attention at the above address, phone number or e-mail.

We look forward to hearing of your decision about this important work.

Sincerely,

A handwritten signature in black ink that reads "Lawrence O. Picus". The signature is written in a cursive style with a large, stylized 'L' and a distinct 'O'.

Lawrence O. Picus

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A PROPOSAL TO CONDUCT AN EVIDENCE-BASED STUDY OF THE COST OF AN ADEQUATE EDUCATION IN VERMONT

INTRODUCTION AND OVERVIEW

Picus Odden & Associates (formerly Lawrence O. Picus and Associates) is pleased to submit a proposal to the Vermont Legislative Joint Fiscal Office in response to a Request for Proposal to conduct a school finance adequacy study as required by House Bill No. 361 of 2015. We propose to conduct an Evidence-Based (EB) adequacy study for Vermont, providing the state with an estimate of the costs of education using our EB model. Our cost estimates will be based on both Vermont's unique school and district governance system, as well as a simulation of potential district mergers as required by House Bill No. 361 passed by the 2015 Legislature. This proposal describes our approach to the study including a timeline for completion of the proposed work, our qualifications for conducting the proposed study, and a proposed budget.

One of the important questions in school finance today is what does it cost to provide an educational program that will provide an equal opportunity for all students to meet their state's proficiency standards and prepare students for 21st century jobs? There are four approaches in the literature for estimating an adequate level of funding.

1. **The Successful School/District** approach estimates the costs of an adequate educational program by identifying schools and/or districts that meet an agreed upon set of performance standards and uses the costs of programs in those schools/districts to estimate the costs of adequacy.
2. **The Cost Function** relies on advanced statistical analyses to estimate the costs of an adequate education relying on data about student, school and district characteristics, estimating the dollar cost of a pre-determined level of performance on standardized tests.

While both of these first two methods have been used by states in recent years, neither offers suggestions as to how the resources should be used by schools to improve student achievement and reduce achievement gaps. Moreover, the Successful School/District approach does not provide information on the extra resources needed for students who struggle to learn to standards. This includes students from low-income households, non-English speaking backgrounds, or children with disabilities. Two other methods address these shortcomings:

3. **The Professional Judgment** method uses panels of education experts to describe the resources necessary in a prototypical school to meet state standards, then estimates the cost of those resources, sums them by district (adding costs for district administration) and totals each district's allocation to determine the cost of adequacy.

4. **The Evidence-Based** approach uses current educational research to estimate the resources needed for a prototypical school to meet state performance standards and then estimates district and state costs of adequacy.

Each of the two later methods develop a suggested approach or theory of action for using resources to produce educational outcomes, and as such offer educators more information on ways to move the performance needle. However, the EB approach's plan of action is much stronger than what generally emerges from the Professional Judgment approach, and today the EB approach includes the use of professional judgment panels to help fine tune the evidence-based resource allocation recommendations to better serve the specific needs of individual states.

This proposal describes how we will develop an Evidence-Based (EB) model for Vermont. The principals of our firm, Allan Odden and Lawrence Picus, are the developers of the EB model. A study last year found that since 2003, the EB model has been used in 16 school finance studies – the most frequently used approach to estimate adequate school funding levels (Aportela, Picus, Odden & Fermanich, 2014).

Our proposed EB study for Vermont includes the following activities:

1. Development of a Microsoft Excel based school funding model that estimates the cost of an adequate education using both the current organization of schools and districts in Vermont and a simulation using hypothetically merged districts, to understand the merger requirements of House Bill no. 361
2. A comparison to other states that use adequacy based systems to fund public schools with a focus on New England states
3. An extensive stakeholder and public input process that will include:
 - Initial meetings in Vermont with officials from the Joint Fiscal Office, the Agency of Education, and other governmental agencies and education stakeholder groups to ensure we have a complete understanding of the data available to develop our EB cost estimates
 - Professional judgment panels, largely comprised of educators, to review the initial research-based elements of the EB model in the context of Vermont
 - A series of public hearings related to school finance adequacy enhanced, to the extent possible, through the use of the Vermont Interactive Technologies teleconferencing capability
 - Meetings with the staff of Vermont's education service agencies including the Vermont School Boards Association, Vermont NEA, Vermont Superintendents Association, Vermont Principals' Association, and others as identified through our work and meetings in Vermont

4. Five case studies of improving schools to help understand the strategies used in successful schools and how they relate to the elements of the EB model. These studies will supplement case studies we conducted in 2011-12 as part of our earlier school finance study in Vermont (see <http://picusodden.com/cases-of-improving-schools/>)

Following the suggested outline in the RFP, we describe each of the study components in this proposal. In the following sections we first describe our firm's background and experience. The second section outlines our study methodology and analytical approach for conducting the analyses proposed. This section offers a detailed description of the EB model, the data needs for building an EB model in Vermont, and the other activities and analyses we will conduct as part of a school finance adequacy study for Vermont. The third section provides details of our staffing plan and describes our staff and the work they will do as part of this project. The fourth section provides a timeline and describes how we will report our findings to the Legislature. This is followed by a project budget and brief resumes of all project staff.

BACKGROUND AND EXPERIENCE

Picus Odden & Associates has vast experience working on school finance issues – design, development, implementation and evaluation – in over three fourths of the states and scores of school districts across the nation. We have extensive experience working collaboratively with our clients to assess and evaluate the operation of state funding systems. As described below, we have had a long term and strong relationship with Vermont. A recent analysis of school finance adequacy studies conducted since 2003 showed that our firm has been the prime contractor on more adequacy studies than any other firm in the United States (Aportela, Picus, Odden & Fermanich, 2014).

The principals of our firm, Lawrence O. Picus and Allan Odden, are the developers of the Evidence-Based method for estimating the funding resources needed to ensure students perform at high levels. Picus and Odden offer the skill and knowledge necessary to meet the specific needs of Vermont. In addition to our past work in Vermont, we have recently conducted EB analyses for the states of North Dakota and Maine, and we are currently participating in a major adequacy study in Maryland where we are developing an EB analysis. We have conducted EB studies in several other states as well, including Kentucky, Arkansas, Wyoming, Washington, Wisconsin, Oregon, New Jersey, Ohio and Arizona. Our model is the basis of the school funding systems in Arkansas, Wyoming, Washington, North Dakota and for a brief time in Ohio. We have also conducted equity studies in nearly 25 states including our equity study in Vermont in 2011-12, and researched the implementation and impact of school finance reforms in many other states. Both Picus and Odden have served as presidents of the Association for Education Finance and Policy (formerly the American Education Finance Association). No other school finance consulting firm has this level of senior partner expertise or standing in the professional school finance community.

In each of our recent adequacy studies, we used our Evidence-Based approach. Odden and Picus developed the Evidence-Based approach for the specific purpose of drawing on a vast research

base about what works in schools as the foundation for estimating the level of resources needed to link a state's education funding system to student learning. It is equally applicable to the allocation of resources among schools within a district to ensure that dollars are translated into a set of programs and services that collectively produce effective instructional practices that raise student achievement and close achievement gaps.

Our Evidence-Based approach is founded on reviews of a wide body of evidence – including research and best practices – that lead to each of our recommendations. Our work offers clients a rationale for each recommendation we make and includes extensive references to published studies. In our roles as full professors at major research universities, our job is to know the literature on education reform and to publish journal articles and textbooks integrating that research. Together we have published more than 500 books, articles, and monographs and we are co-authors of one of the most popular school finance textbooks in the country.

Today, there are increasing numbers of randomized control research studies on several of the key elements of school improvement. We believe that experimental design research studies help to better inform school reform and provide important insights into how schools can improve learning for all students. Other approaches often ignore current research, which we believe is a mistake. Moreover, as described below a critical component of our EB approach is to always have the core EB recommendations reviewed by leading educators in each state where we work.

We developed the Evidence-Based strategy, and the integrated approach outlined in this proposal, to ensure that all recommendations have empirical evidence to substantiate them and to be certain leaders in each state also review those recommendations. We have conducted professional judgment studies or analyses to review the EB model in Kentucky, Arkansas, Wyoming, Alaska, Arizona, North Dakota, Maine, Maryland and Washington. These Professional Judgment Panels have confirmed the evidence and provided state-specific context that also informs our studies.

Our staff has conducted field studies in a number of districts and states across the United States. The purpose of that work was to show how schools and districts have actually used evidence based strategies in a comprehensive manner to dramatically improve student learning. In 2006 we completed a successful district study in Washington, where we pioneered the use of site visits to individual schools to ascertain how they were translating educational resources into student learning. We conducted similar school studies in Vermont, Arkansas, Wisconsin and North Dakota. Recently we conducted more in-depth analyses of instructional improvement strategies and programs under the Evidence-Based model in Wyoming, Vermont and Maine. In recent years, Picus has directed some 45 Ed.D dissertation students in the analysis of educational resource allocation and use patterns in California.

We have also worked with school districts in Alaska, Arkansas, Oregon and Ohio to assess the use of personnel in individual schools to ascertain how the use of professional staff compares with both individual districts' stated goals for resource use, and with the theory of action that is embedded in our Evidence-Based model. Picus also led a group of 16 additional Ed.D. dissertation students that analyzed staff allocation compared to the EB model in a sample of California school districts. This school-level work has identified a number of efficiencies and

new strategies schools can use to improve student learning at little or no additional cost. We propose using similar strategies, described below, to evaluate the adequacy of Vermont's school finance system.

Our work relies extensively on a highly interactive approach to evaluating current school funding systems and for estimating the resources necessary to educate students to state proficiency standards. Through our research we have amassed a wealth of knowledge and experience about how to assess and evaluate the equity, implementation, effectiveness, and impact of state school finance reforms. During the early 1990s, Odden and Picus were Principal Investigators for a federally funded Research and Development Center that studied, over five years, the implementation and impacts of the major 1989-1990 school finance reforms in Kentucky, New Jersey and Texas. These studies included extensive data analyses and interviews at the district and school levels, focused on the uses of the school finance reform dollars and their links to effective education strategies (Picus & Wattenbarger, 1996).

Because state and local data systems often provide little useful information on the educational uses of education dollars, Odden, Picus and colleagues also developed and proposed new ways for states and districts to report the use of education funding to provide knowledge not only on expenditures by function and program, but also by the educational strategies that are a part of the Evidence-Based approach to school finance. These proposals have included a new school-based expenditure reporting system (Odden, Archibald, Fermanich & Gross, 2003) and a system focused specifically on professional development (Odden, Archibald, Fermanich & Gallagher, 2002); Odden (2011a) was asked by the leading national professional development organization – Learning Forward – to write an article on the costs of effective, comprehensive, systemic professional development. Wyoming and Arkansas modified their school finance data systems to collect this type of information, and have used it to enhance their school finance structures.

These cost frameworks have been used to assess the use of education resources at the local level, and specifically at the school level (Odden, Goertz, Goetz, Archibald, Gross, Weiss & Mangan, 2008; Odden, Picus, Archibald, Goetz, Mangan & Aportela, 2006; and Picus, Odden, Aportela, Mangan & Goetz, 2008). We have combined all of our findings into two books, one on strategies to dramatically improve performance (Odden, 2009) and another on the same topic but including suggestions for identifying the resources to fund those strategies (Odden & Archibald, 2009). Odden and Picus also published an article in the *Phi Delta Kappan* (Odden & Picus, 2011) on “Improving Student Performance in Tight Fiscal Times.” Odden recently published a book on the same topic (Odden, 2012). Picus is the co-editor of the new *Encyclopedia of Education Economics and Finance* (Brewer & Picus, 2014), which is already regarded as a standard reference in the field of school finance. In short, our experience is not only deep in school finance adequacy and equity but also in effectiveness and impact, specifically addressing achievement disparity issues.

In the next section we describe in greater depth our past work on school finance in a variety of states and school districts. A list of references who can discuss our past work is included at the end of that section.

IN DEPTH DESCRIPTIONS OF PAST PROJECT WORK

Vermont

Picus Odden & Associates has a long and successful history of working with the State of Vermont on school finance issues. One of the firm's principals, Lawrence O. Picus, served as a consultant to the state in the 1990s when Act 60 was developed in response to the *Brigham* court ruling. In 2011 and early 2012, Picus Odden & Associates completed an evaluation of Vermont's school funding system.¹ We conducted an in-depth analysis of the operation of the state's current school funding system analyzing the extent to which the formula meet the goals of that state's school funding laws (Acts 60 and 68). The study included a detailed cross-state comparison focusing on how Vermont compares to all of the other states in the nation along with a comprehensive comparison of Vermont with the other states in New England. The Vermont study included a traditional school finance equity analyses, an economic analysis of the impact of the funding system on individual school district taxing and spending decisions and a series of public hearings. We also conducted case studies to assess the allocation and use of resources in five schools that demonstrated substantial improvements in student performance over a five-year time period; four of these schools had high concentrations of at-risk students who also made learning gains (Picus, Odden, Glenn, Griffith & Wolkoff, 2012).²

Our 2012 evaluation concluded that Vermont's funding system meets the goals and objectives established by Acts 60 and 68, and that the state's unique, substantially income tax based system that allows individual districts (which often contain a single school) to approve budgets annually, provides both substantial equity and an impressive level of resources for all schools to offer high quality educational programs for children. Our recommendation was that the state begin to focus on educational strategies that will improve learning for all children and provide all schools with the support they need to implement those strategies in their own unique environments.

At the end of 2013 and beginning of 2014, Picus worked with the Vermont Governor's Office and the State Legislature to develop a framework for discussions related to the reform of the state's school funding system. State policy makers were concerned that the funding system was leading to increases in school spending that the state could not afford and asked Picus to help identify potential options. Picus produced a framework paper³ for state policy makers and organized a day-long forum to discuss school finance in early January 2014. He also had six well known school finance experts participate in the day-long meeting in Burlington, and produced a briefing paper prepared for the Legislature and the Governor.⁴

¹ http://picusodden.com/wp-content/uploads/2013/09/VT_Finance_Study_1-18-2012.pdf

² <http://picusodden.com/cases-of-improving-schools/>

³ <http://picusodden.com/wp-content/uploads/2014/01/Funding-Vermont-Schools-for-the-Future-Jan-2014.pdf>

⁴ <http://picusodden.com/wp-content/uploads/2013/09/VT-Briefing-Paper-final.pdf>

Maine

From Fall 2012 to December 2013, Picus Odden & Associates completed an evaluation of the equity and adequacy of Maine's school finance system. This study included:

- An extensive 50 state comparison of Maine to other states, and to New England states, of several school finance, education and fiscal variables
- A ten year longitudinal equity analysis
- An in depth Evidence-Based analysis of all components of its Essential Programs and Services school finance system
- Several professional judgment panels that reviewed all recommendations emerging from the initial EB analysis
- An Excel-based simulation program that allowed the interim education committee to simulate alternatives of every element of the EB proposals and the impact on each local district
- An analysis of alternative fiscal capacity measures that could be used in the school finance formula with a focus on an income factor, and including a cross state comparison of how other states use factors other than property wealth per pupil in school funding systems
- In depth studies of five schools that had improved student performance overall and in some cases also reduced the achievement gap
- An overview of different approaches states have taken to provide incentives that would enable school districts to recruit and retain quality and effective teachers
- Analysis of the funding of the state's tribal schools, and
- Assessment of the state's approach to regional cost adjustments.

Wyoming

Wyoming is widely regarded as a leader in the current movement to define the resources needed to provide a cost-based funding formula so that all schools can educate students to the state's proficiency standards. The Wyoming Legislature employed Picus Odden & Associates in March 2005 to work with the Select Legislative Committee on School Funding to conduct a recalibration of the system. That work concluded in March 2006 when the Legislature enacted, and the governor signed into law, a new school-funding model based on our Evidence-Based model.

During the first year we worked in Wyoming, we participated in monthly meetings with the Select Legislative Committee to define the resources needed for the recalibrated prototype school designs and met with a series of professional judgment panels to seek input from them on the relevance of the prototypes to actual school conditions in Wyoming. We conducted a statewide public hearing on the mechanics of the school-funding model before it was considered by the Legislature and worked hand in hand with Legislative staff as the legislation was considered during the Legislative session in 2006. The funding system our firm developed for Wyoming in 2005, and recalibrated in 2010, is still used today. Our recalibration of Wyoming's school finance system incorporated the findings from the 2005-06 Evidence-Based study and professional judgment panel review we originally conducted for Wyoming. The Wyoming

funding model includes an extensive set of small school and district adjustments in its funding formula – adjustments designed to ensure small and rural schools have the capacity to improve student learning. Our legislative report can be found at www.picusodden.com.

Since that time we have worked with the Wyoming Department of Education and the Wyoming Legislature to provide technical support for the model. We also conducted two major, multi-year studies to help the Legislature and school districts better understand how the resources allocated through the funding model were used in schools (Picus, Odden, Aportela, Mangan & Goetz, 2008; Odden, Picus, Archibald & Smith, 2009). A unique aspect of this work was our partnership with the Department of Educational Leadership at the University of Wyoming. Much of the fieldwork for this project was conducted by advanced doctoral students at the University as part of their dissertation work. We believe that establishing the capacity to evaluate the use of educational resources within our client states strengthens the ability of all schools and districts to focus their resources on strategies that lead to improved student learning.

During the first two years of this study we visited 334 of Wyoming's 363 schools to understand how they were using the resources they received through the new Evidence-Based model. The second study was a much more in-depth analysis of a small sample of improving schools in both large and small districts to more fully understand the strategies schools use to improve performance, the resource needs of those strategies and the alignment of the state funding system to those resource needs.

In 2010, our firm worked closely with the Legislature's Joint Education Committee to recalibrate components of the Wyoming Funding model. We prepared a number of memos on issues related to specific aspects of school funding in Wyoming. We also began working on establishment of a benchmarking system to ascertain whether or not the funding appropriated by the Legislature met the standard of adequacy as determined by the State Supreme Court. We identified several areas where funding appeared higher than required to meet the adequacy standard, and helped school district business officials identify a number of cost efficiencies. Our final report is available at www.picusodden.com.

In addition to that work, we also worked with the Interim Committee on the development of a new accountability system for Wyoming schools. The recommendations developed by the committee with our support were forwarded to the 2011 session of the Wyoming Legislature. Moreover, a number of Interim studies were conducted in 2011 and referred to the 2012 Legislature for appropriate action. Our accountability report is available at our website at www.picusodden.com.

Earlier this year, Picus and Odden prepared a "desk audit" for the Wyoming Legislature in preparation for the court required recalibration of the state's school finance model (Odden & Picus, 2015). The desk audit reviewed the components of the current funding model, compared it to the EB model, discussed how schools and districts had used the resources provided by the model, and provided recommendations as to which elements of the funding model needed to be recalibrated. Today Picus Odden & Associates is under contract with the Legislature's Legislative Service Office to support the recalibration of Wyoming's funding model.

Washington

In December 2005, Picus Odden and Associates was employed to conduct a major school finance study for the state of Washington. Working for the K-12 Advisory Committee of *Washington Learns* – a state wide educational improvement project established by the Legislature and chaired by the Governor – we conducted both successful district and Evidence-Based adequacy studies. Working closely with the K-12 Advisory Committee, we built a funding model that allocates resources to individual schools and districts based on our research focused Evidence-Based model. Copies of our reports can be found at www.picusodden.com.

As part of this effort, we learned that the most powerful findings from the different studies emerged by integrating the Evidence-Based results, focusing on the instructional improvement strategies and the resource use patterns of schools that have dramatically improved student learning. As a result, our integrated approach to school finance adequacy is focused on setting very high goals for student learning and then identifying school strategies that can dramatically improve student performance over the next ten years.

Arkansas

Following an Arkansas Supreme Court Ruling in November 2002, the legislature hired Picus Odden and Associates to conduct a major school finance study for Arkansas. In that study we relied on our Evidence-Based approach, but supplemented it with a professional judgment review prior to the development of the final school prototypes (Odden, Picus & Fermanich, 2003). We worked collaboratively with an Interim Joint Committee on School Finance, which led to the Legislature successfully enacting a school finance system that met constitutional review by the Arkansas Supreme Court.

Our work in Arkansas also included a number of recommendations regarding the implementation of a new pay system for teachers designed to help in recruiting and retaining effective teachers and to link the salary structure more closely to effective instructional practice and improved student learning. Combined with substantial teacher pay increases (to bring teachers up to market rates of pay), this model would have made Arkansas a leader in alternative approaches to teacher compensation. Although the program has not been implemented in Arkansas to date, active discussions continue.

In 2006, we completed another study for Arkansas to help evaluate the way local school districts used the additional resources that were provided to them through the legislation and appropriations that resulted from our 2003 study. That work had four major components.

1. We recalibrated the per pupil foundation funding level that was developed to allocate resources to school districts. The approach we developed continues to be used by Legislative staff today to estimate the foundation funding level.
2. We updated and revised the Evidence-Based portion of our earlier study improving the accuracy of the estimated resources needed for students to meet Arkansas' proficiency standards.

3. We conducted an intensive field-based analysis of 107 Arkansas schools. The purpose of this study – which was the major part of our work – was to ascertain how school districts and local schools chose to use the new resources they received beginning in 2004-05. The hope was that the results of this study would help local educators better focus their resources and efforts on educational strategies that research shows are effective in improving student performance.
4. In addition, we conducted an extensive analysis of the expenditure patterns of school districts before and after the infusion of new funds. We also conducted a statewide web-based survey of all school districts to develop a deeper understanding of trends across the state.

In 2014 Picus and Odden completed a desk audit of Arkansas school finance system (Odden & Picus, 2014). The purpose of our desk audit was to compare Arkansas' current funding model to the EB model, show how schools and districts had used the resources provided by the model and recommend possible areas for recalibration. The work was completed in preparation for the 2015 Legislative session.

All Arkansas reports are available at www.picusodden.com.

Kentucky

In Kentucky, Picus Odden and Associates conducted a number of studies over a period of several years. In 2001, we conducted a major assessment of the equity of Kentucky's school funding system (Picus, Odden, & Fermanich, 2003; 2004). Following that work – which concluded that a decade after reform, substantial improvements in school finance equity have been achieved in Kentucky – we prepared an assessment of approaches to school finance adequacy. In a second contract completed in 2003, Picus Odden and Associates conducted two separate costing studies for Kentucky, one using the professional judgment approach (requested by the state) and the other relying on our Evidence-Based approach (Picus, Odden & Fermanich, 2003; Odden, Fermanich & Picus, 2003). During the summer of 2006 we completed an analysis of the equity of Kentucky's school facility funding system (Glenn, Picus, Odden & Aportela, 2009). The work represents the first time a detailed analysis of facility funding equity has been completed in any of the 50 states. All of these reports are available at www.picusodden.com.

Today, we are working with a coalition of Kentucky school districts to update our earlier Evidence-Based adequacy study. The work includes development of a new model to estimate the costs of adequacy and includes a number of stakeholder panels throughout the state.

Arizona

Picus Odden and Associates conducted an Evidence-Based school funding study for Arizona (Odden, Picus, Fermanich & Goetz, 2004), which was released in January 2005. This study proposed a funding level for Arizona that was below the national average for per pupil spending at the time but still robust enough for schools to make substantial improvements in student

performance. The study relied on extensive collaboration with a policy Steering Committee of leading state political, educational and business leaders, as well as a two-day professional judgment panel meeting to refine the proposed model. As with our earlier work, the hallmark of this study was our firm's commitment to working closely with the client to ensure that the unique needs of Arizona were considered as we applied our knowledge of current educational research to defining educational resource allocation needs. The report is available at www.picusodden.com.

Wisconsin

In April 2005, Odden led an effort to conduct a costing out study that was recommended by a 2004 report from the Governor's School Finance Task Force. Odden created a bi-partisan Policy Advisory Task Force of 30 policy and political leaders in the state, including a representative from the Governor's Office, the chair of the Governor's Task Force, the chairs and ranking minority members of the Assembly and Senate Education Committees, the Deputy Superintendent of Public Instruction, and several leading educators, to review an Evidence-Based approach to school finance for Wisconsin. After studying several districts and schools in Wisconsin, including schools and districts with diverse student populations that had dramatically improved student performance, the report focused on the design of a strategy for Wisconsin to achieve similar improvements in the performance of students across all of the state's K-12 public schools. This included design of a state school funding formula that more explicitly linked funding to student learning (Odden et. al., 2006). The report is available at www.picusodden.com.

North Dakota

In 2008, Picus Odden and Associates was hired to provide school finance analyses and support to the North Dakota Education Improvement Commission, chaired by then Lt. Governor and now Governor Jack Dalrymple (Odden, Picus, Goetz, Aportela & Archibald, 2008). The commission included key legislative leaders and recognized educators from school districts across the state. In 2009, the state adopted a major new funding system based on our study's recommendations. Because of revenues generated from a thriving state economy and oil, gas and coal extractions, the new funding system represented the largest increase in state funds for education and property tax relief in the state's history. The report is available at www.picusodden.com.

In Fall 2013, we were asked to return to the state to recalibrate the recommendations and numbers in the 2008 report to ensure the state's newly structured foundation program and weights for at-risk students, students with disabilities and English language learning students were adequate. That report was completed in June 2014, and formed the basis for the state's legislative Interim Education Funding Committee to propose further increases in state funding, including increases in both the at-risk and ELL student weights.

Ohio

In 2009, Ohio's then governor, Ted Strickland, announced that Ohio would shift its school funding system to an Evidence-Based model. The model presented to the Legislature and used as the basis for funding schools in Ohio in 2009-10 closely followed the recommendations of our Evidence-Based model (Picus & Odden, 2009).

In 2010, with support from the KnowledgeWorks Foundation, we worked with a sample of four Ohio school districts to develop a budget simulation based on the Evidence-Based model. This simulation was designed to enable each district to compare, school-by-school, their personnel use with: 1) the personnel recommendations of the general Evidence-Based model (Odden & Picus, 2008); 2) the specific personnel allocations of the Ohio funding model for 2010-11; and 3) any other personnel allocation the district determined would best meet the needs of their student population. This work showed that in all areas of the curriculum and instructional program there were opportunities in virtually all districts for change that would both lower costs and improve student performance (Odden & Picus, 2010). Due to the change in administrations in Ohio following the 2010 elections, it is not clear how the Evidence-Based model will be used to fund Ohio schools in the future. References to this work are available on the KnowledgeWorks website at www.knowledgeworks.com and at www.picusodden.com.

Beaverton, Oregon

In 2009, Picus Odden and Associates worked on a strategic, zero-based budgeting project with the Beaverton, Oregon school district. The purpose of this work was to help the district align its educational resources with strategies that would lead to improved student performance. The challenge facing Beaverton (and all districts in Oregon) was the relatively low per pupil spending for schools in the state combined with continued recession-related fiscal stress that was leading to further service reductions. Our work with the school district included monthly meetings with the district's administration, financial officers, and Board of Education as well as with the district's principals. We met on one occasion with the district's teachers as well. Through this work, we were able to help the district identify its priorities and establish a model that could be used to align personnel assignments with those priorities.

As part of the process, the schools realized a number of ways to reallocate school time to provide additional hours for teacher collaboration, and at the high school level identified the need for common school schedules across the district's five comprehensive high schools. Actions to implement these findings were being put in place during the 2010-11 school year.

Although a final report was not prepared for this project, it is our understanding that the model we developed for the district's use has continued to be used in making decisions about how to allocate resources to foster improved student learning.

Little Rock, Arkansas

In 2009-10, we worked closely with the Little Rock, Arkansas school district's strategic planning committee to develop a comprehensive strategic plan for the school district to allocate

educational resources in ways that would facilitate improvements in student learning. The strategic plan (Odden, Cohn & Picus, 2010), which was accepted by the District's School Board, now forms the basis of that district's school improvement efforts. The plan became more critical to the school district when it faced the loss of \$38 million in desegregation funding from the state beginning in 2011. The report is available at www.picusodden.com.

Anchorage, Alaska

In an ongoing study, Picus Odden & Associates are conducting an EB study for the Anchorage school district. The study included development of a comprehensive school level (practitioner) EB model for the district as well as a state level (policy) model designed to provide EB estimates of adequate funding levels for all school districts in the state. The study includes four case studies of improving schools in the district and a set of professional judgment panels to compare the EB model to educational practices in Anchorage. The study is pending completion due to the severe budget crisis facing the state of Alaska.

In summary, Picus Odden and Associates has considerable experience in conducting the type of Evidence-Based adequacy study we propose to conduct for Vermont.

REFERENCES

The RFP asks for references from past clients for whom we have worked in the last three years. References are provided below.

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SCOPE OF WORK AND ANALYTIC APPROACH

Our proposed Evidence-Based (EB) study for Vermont includes the following activities:

1. Development of a Microsoft Excel based school funding model that estimates the cost of an adequate education using both the current organization of schools and districts in Vermont and a simulation using one version of merged districts, to understand the merger requirements of House Bill No. 361
2. A comparison to other states that use adequacy based systems to fund public schools with a focus on New England states
3. An extensive stakeholder and public input process that will include:
 - Initial meetings in Vermont with officials from the Joint Fiscal Office, the Agency of Education, and other governmental agencies and education stakeholder groups to ensure we have a complete understanding of the data available to develop our EB cost estimates
 - Professional judgment panels to review the initial research-based elements of the EB model in the context of Vermont
 - A series of public hearings related to school finance adequacy enhanced to the extent possible through the use of the Vermont Interactive Technologies teleconferencing capability
 - Meetings with the staff of Vermont's education service agencies including the Vermont School Boards Association, Vermont NEA, Vermont Superintendents Association, Vermont Principals' Association, and others as identified through our work and meetings in Vermont
4. Five case studies of improving schools to help understand the strategies used in successful schools and how they relate to the elements of the EB model. These studies will supplement case studies we conducted in 2011-12 as part of our earlier school finance study in Vermont

We begin with a detailed description of the EB model itself, followed by a description of the Excel based model, the stakeholder and public input process and the case studies. Per the outline requested in the RFP, we will provide more information on model, data needs and analytic approach in a later section of this proposal.

1. THE EVIDENCE-BASED MODEL FOR SCHOOL FINANCE ADEQUACY

The evidence-based (EB) approach was developed by Allan Odden and Lawrence Picus and has been used by them to conduct adequacy studies in 16 states in the last 12 years. The EB model relies on a school improvement model that allocates resources for educational strategies

that current educational research suggests lead to improvements in student learning. The model relies on two major types of research:

1. Reviews of research on the student achievement effects of educational strategies used in the EB model. In recent years we have included the growing number of randomized controlled trials (RCTs) that have been conducted on educational strategies to identify components of the model.
2. Studies of schools and districts that have dramatically improved student performance over a 4-6 year period – what we have sometimes labeled “a doubling of student performance” on state tests.

The use of randomized control research studies in education has increased dramatically in recent years. This research has led to many new insights into how educators can improve student learning and how educational resources should be allocated and used to ensure that learning is achieved. We believe that experimental design research studies help to better inform school reform and provide important insights into how schools can improve learning for all students. Other approaches often ignore current research, which we believe is a mistake. Moreover, as described below a critical component of our EB approach is to always have the core EB recommendations reviewed by leading educators in each state where we work.

The evidence-based school improvement model includes 10 improvement strategies that, if adopted by districts, 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. The 10 school improvement strategies underpinning the approach consist of:

1. Analyzing student data to become deeply knowledgeable about performance issues and to understand the nature of the achievement gap. The test score analysis first includes analysis of state test results and then the use over time of formative and benchmark assessments to help tailor instruction to precise student needs and to identify and monitor interventions for struggling students.
2. Setting higher goals, including aiming to educate 95 percent 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. Reviewing evidence on good instruction and effective curriculum. Successful schools throw out the old curriculum, replace it with a different and more rigorous curriculum, and over time, create their own specific view of what good instructional practice is to deliver that curriculum.
4. Investing heavily in teacher training that includes intensive summer institutes and longer teacher work years. Provide resources for trainers and, most importantly, fund instructional coaches in all schools. Time during the regular school day and week is provided for teacher collaborative work groups to use student data to improve instruction.

5. Providing extra help for struggling students and, with a combination of local funds, state funds and federal Title 1 funds, provide some combination of tutoring in 1:1, 1:3 or 1:5 tutor-student ratio formats. Over time this also includes extended days, summer school and English language development for all Limited English Proficient (LEP) students.
6. Creating smaller classes in early elementary years, often lowering class sizes in grades kindergarten through three to 15 students, citing research from randomized trials. Sometimes this includes small overall school size as well.
7. Restructuring the school day to provide more effective ways to deliver instruction. This includes multi-age classrooms in elementary schools and block schedules and double periods of mathematics and reading in secondary schools. Schools also protect instructional time for core subjects, especially reading and mathematics.
8. Providing strong leadership support by the superintendent, the principal and teacher leaders around data-based decision making and improving the instructional program.
9. Fostering professional school cultures characterized by teacher collaborative teams' ongoing discussion of good instruction and by teachers taking responsibility for the student performance.
10. Bringing external professional knowledge into the school. For example, hiring experts to provide training, 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.

The evidence-based funding model is built upon a theory of action that is designed to allow districts and schools to dramatically improve student performance. Our review of the literature on school improvement is often supplemented with case studies of schools and districts that are dramatically improving student achievement. Combined, our analysis of current research and our case studies identify a set of resources that we have concluded are adequate to accomplish the student achievement goals of most states. These previous studies are relevant to the proposed work in Vermont because they take into account implementing new standards, including Common Core State Standards, which are designed to prepare all students to be college and career-ready for the emerging global, information-based economy.

Our approach to using the EB method in Vermont mirrors and builds on the improvement model described above. The adjustments we make to the EB model in the Vermont context will be based on advances in educational research, changes in policy and practice around the country and other adjustments we have made to our overall analytical approach resulting from continued review of the research and our growing body of case studies.

The EB model provides for a core set of resources for all students, includes additional resources to support the needs of struggling students – at-risk, non-native English speakers and students with disabilities, as well as strategies for professional development to support teachers. The model also includes resources for maintenance and operations and central district staffing and costs.

For the EB component of this study, we will review the core resources needed for the following programmatic elements for both schools and districts:

Staff:

- Core classes and class size
- Elective classes and class size
- Instructional coaches
- Substitute teachers
- Pupil support: guidance counselors, nurses, etc.
- Instructional aides
- Librarians
- Principals and assistant principals
- School secretarial services

Dollar per pupil figures for various services:

- Gifted and talented services
- Career and technical education
- Professional development and training
- Technology and related computer equipment
- Instructional materials and formative assessments
- Student activities

District level:

- Central office administration
- Maintenance and operations

We will also assess our recommendations for struggling students:

- Tutors as the first Tier 2 intervention in the Response-to-Intervention (RTI) framework
- Extended day programming
- Summer school
- Extra pupil support
- LEP students
- Students with disabilities
- Alternative schools

Our approach will be to review the research on each of the topics identified above, update the findings that we have previously published (Odden & Picus, 2014) and have used in other state studies by incorporating new research findings, and determine how our core formulas should be updated or modified to meet the needs of Vermont. We will augment this analysis with more recent literature, which includes many new random controlled trials (RCTs), and with the results of school case studies that we will conduct in Vermont as part of the overall project.

Current educational research findings are operationalized into a theory of action describing the organization of schools (elementary, middle and high schools). The model establishes suggested pupil teacher ratios for core subjects and provides resources for elective teachers. It includes a set of strategies for helping struggling students through extra time in core classes, extended day programs and summer school. The model also provides additional resources for children from low-income families and students who are English Language Learners (ELL). School level staffing includes resources for instructional coaches, guidance and health professionals, pupil support staff, school level administration, clerical support, and other personnel (e.g. librarians, technology support staff, custodians, and other support workers). Resources are also provided to support the central operations of school districts.

Our EB approach typically relies on prototypical schools generally with enrollments of 450 elementary (K-5), 450 middle (6-8), and 600 high school (9-12). Resources are allocated to schools based on the evidence described above and added to that, resources for central office functions, operations and maintenance and other district costs. This leads to an estimated per pupil funding level. To this figure we add the estimated per pupil costs of providing programs for students with special needs including compensatory education, LEP and special education services.

In all states, we develop a scheme for prorating resources to schools that are larger or smaller than our prototypes and have developed adjustments for very small schools. A quick review of the Vermont Agency of Education's website shows that in FY 2013-14 there were 275 operating school districts or operating agencies.⁵ Enrollments ranged from a low of 1.0 Average Daily Membership (ADM) in Ferdinand to a high of 3,992 in Burlington. The average operating district enrollment was 319.95 ADM. We are aware that most of these 275 districts are part of the 46 Supervisory Unions that provide a range of services to their member districts. An important component of the EB study in Vermont will be to develop appropriate size prototype schools, and to develop a strategy that considers the role of Supervisory Unions in the provision of centralized services. This is particularly important in Vermont where many school districts are single school (often elementary) districts. We will work with state officials and others as appropriate to establish school and district prototypes that will provide appropriate funding level estimates in Vermont.

We have had extensive experience working in other states with relatively small student populations and high numbers of very small schools and school districts (Wyoming and North Dakota are the best examples). We are familiar with the challenges associated with small schools and districts and have extensive experience developing research based solutions for estimating the resources needed in small schools and districts. For example in Wyoming, the prototypical elementary school is 288 students. This represents a "three section" school, with three classes of 16 students in each of grades K-5. The Wyoming model also includes a two-section elementary school, and a one-section elementary school, which has 96 students (16 students in each of six grades K-6). Below enrollments of 96 further adjustments are made to accommodate the needs of these small schools. Similar adjustments from our "standard" prototypical school sizes are made for middle and high schools in Wyoming.

⁵ Average Daily Membership Report for 2013-2014 (ADM-15) by Operating District, available at <http://education.vermont.gov/data/average-daily-membership/>

Additionally, House Bill No. 361 establishes incentives and eventually a requirement that school districts combine into units of 900 students or more. We will develop a second adequacy model that uses one (hypothetical) grouping of schools into 900 plus student districts and re-estimate our EB model.

As part of the EB model, we will develop a Microsoft Excel-based simulation that estimates each school's total resource allocations along with additional central office functions to estimate adequacy levels for the district. The model will be designed so that each of the cost factors (i.e. class size or teacher salaries) can be modified and a new total cost for the district estimated. Once the model parameters are determined, extra resources or weighting factors for at-risk and ELL students can be determined as well.

Our Excel model will be designed so it can include a funding formula for comprehensive prekindergarten programming. The elements of the Pre-K model were used in a 2008 Foundation for Child Development project to estimate prekindergarten costs for all 50 states in the country (Picus, Odden & Goetz, 2009), as well as in several adequacy studies where we were asked to estimate costs for an adequate prekindergarten program (e.g., Maine).

Our final report will provide a detailed analysis of all the components of the EB model including our research based recommendation for resource allocation to schools, the evidence supporting our recommendation and a description as to how those recommendations are implemented in the Excel-based cost model.

Odden and Picus will lead this work with support for building the EB model from David Knight and Anabel Aportela. A detailed description of our staff and their qualifications is provided in the next section of the proposal.

2. COMPARISON WITH OTHER STATES

The second component of our study will be a comparison of adequacy-based school funding systems in other states. We will describe how funding systems in states that have used adequacy models to develop their education funding formulas provide resources to school districts, including a discussion of the adequacy and equity effects of using this approach to school finance.

Many of the states that will be included in the analysis rely on Evidence-Based models (Wyoming, Arkansas, North Dakota), while others have used alternative approaches to estimate adequacy (Maryland for example used a Professional Judgment method in estimating adequacy about ten years ago). In New England, Maine has used its own adequacy model for about a decade (a two-volume review of that system conducted by Picus Odden & Associates is available at www.picusodden.com).

We anticipate this analysis will show how states have implemented adequacy-based funding systems, and discuss how it might be included in Vermont's school funding system in the future. An important component of the analysis in this portion of our study will be a discussion of how

adequacy-based funding systems impact the equity of school finance systems, with a particular focus on the role of the *Brigham* decision on Vermont's school funding system.

Mike Griffith, a national school finance expert who has worked with state policymakers in nearly every state, will conduct this analysis with support from Picus and Odden. A detailed description of our staff and their qualifications is provided in the next section of the proposal.

3. PUBLIC INPUT

One of the hallmarks of our work in all other states has been our interactive approach to working with our clients. We propose an extensive stakeholder and public involvement process in developing EB cost estimates for Vermont. House Bill No. 361 and the RFP call for a series of public hearings to “engage education stakeholders and the general public in this study.” We believe that stakeholder and public input into school finance adequacy studies is critical to both understanding how schools allocate and use resources as well as to ensure that the EB model developed in a specific state meets that state's educational resource needs. The process will include:

- Initial meetings in Vermont with officials from the Joint Fiscal Office, the Agency of Education, and other governmental agencies and education stakeholder groups to ensure we have a complete understanding of the data available to develop our EB cost estimates
- Professional judgment panels to review the research based elements of the EB model in the context of Vermont
- A series of public hearings related to school finance adequacy enhanced to the extent possible through the use of the Vermont Interactive Technologies teleconferencing capability
- Meetings with the staff of Vermont's education service agencies including the Vermont School Boards Association, Vermont NEA, Vermont Superintendents Association, Vermont Principals' Association, and others as identified through our work and meetings in Vermont

Each is described in detail below

Initial meetings

If Picus Odden & Associates is selected to conduct the Vermont adequacy study, our first step will be to schedule a two to three day series of meetings with state officials and stakeholders in Vermont. The Picus Odden & Associates staff who will work on this project are familiar with school funding in Vermont and have extensive experience helping the state design its current funding formula, assessing the equity of that formula, providing policy guidance for modifying the formula, and conducting extensive case studies of improving schools. However, we believe

it essential to meet with the staff of the Joint Fiscal Office, the Vermont Agency of Education, other state agencies as appropriate and representatives of education stakeholder groups including the Vermont School Boards Association, Vermont NEA, Vermont Superintendents Association, Vermont Principals' Association, and others as appropriate.

Our goal in these initial meetings is four fold:

1. To understand the current education funding and school reform environment in Vermont as described by Legislative Staff, Agency officials and the education stakeholders
2. To ensure we are able to access and understand the most accurate data available to use in building the EB model, as well as to develop contacts with the Vermont officials responsible for developing the databases
3. To start the process of identifying potential school sites for our case studies
4. To initiate planning for professional judgment panels and public hearings across the state

We believe that these meetings will ensure our staff is aware of the major issues surrounding conduct of the adequacy study and that we have started the process of developing relationships with the individuals who can provide the data we need to estimate the costs of adequacy in Vermont.

Professional Judgment Panels and Public Hearings

As part of the EB adequacy study, we will conduct four Professional Judgment (PJ) panels in Vermont along with a series of public hearings. Our intent is to understand the concerns education professionals and the general public have about the resources available to public schools across the state. As required in the RFP, these PJ panels and public hearings will be held in September 2015. Our intent is to coordinate the panels and hearings over a two-day period where two teams of staff members from Picus Odden & Associates conduct daylong PJ panels and then evening public hearings. Details on this process are provided below.

Professional Judgment Panels

We propose to hold four PJ panels to seek input from educational professionals on the content and elements of the EB model. At the panel meetings, we will share the elements of the EB model, ask the panel members to reflect on those elements and provide us with a Vermont specific reflection as to how each will operate in Vermont. Based on the feedback from these panels we will adjust the EB model to reflect Vermont education conditions and circumstances as necessary.

Each panel will have 16 to 18 participants. At each panel, half of the participants will be teachers. Our intent is to hold the panels in four different regions of the state. Our goal is to ensure that the panels are representative of the educational realities in different parts of the state, and to ensure easy access for panelists.

In general the panels would reflect representation from the following:

Teachers (ideally those recognized as outstanding teachers)

- Elementary
- Middle
- High School
- Lead teachers
- Instructional coaches
- ELL
- Special Education
- Tutors

Other Positions

- Principals (Elementary, Middle, High School and alternative schools)
- Superintendent
- School Board member
- Curriculum Director (or Assistant Superintendent)
- Special Education Director
- School Business Manager
- ELL Director
- Directors of other at-risk programs

We will work closely with stakeholder groups and the Agency of Education to identify candidates to participate in the PJ panels. Each panel will meet for a day in the specified location and two staff from Picus Odden and Associates will moderate the sessions. Note that our budget below does not include resources for substitute pay but does include resources to reimburse participants for mileage to and from the meetings. By holding the meetings in different parts of the state, all participants should be able to drive to and from the meeting in one day.

We will use the findings from the four PJ panels to identify Vermont specific suggestions for refinement of the EB model and make adjustments to the model as appropriate. In some instances where our reading of the research diverges from recommendations made at the PJ panels, we will describe these differences and use the cost model to estimate the statewide cost differences between the EB model and the recommendations that emerge from the PJ panels. We will clearly document our rationale for our recommendations, and provide enough information for state policy makers to determine which approach they would prefer to fund. The simulation capacity of the Excel model will enable alternative recommendations to be modeled in real time and cost projections provided to policy makers as they review the final report.

Public Hearings

While the PJ panels will provide us with important input from educators from across the state, it is important to hear more generally from the public about their thoughts and concerns about the appropriate level of funding for schools. We propose a series of four public hearings to be held in the evenings following each daylong PJ panel. Our intent is to hold the hearing in the same location (at least the same city or town) as the PJ panels and begin after dinnertime. It is our intent – to the extent possible – to include interactive access to the hearings through the Vermont

Interactive Technologies teleconferencing system. We used this approach to hold public hearings in Vermont during the conduct of our equity study in 2011 and found it to be very successful in ensuring all interested Vermonters had the ability to comment on our work.

Follow-up Meetings

Our intent is to hold the PJ panels and hearings on two consecutive days in September (likely the last week of the month to avoid conflicts with the Jewish Holidays and to ensure that the hearings do not conflict with the opening days of school in early September). Following the two days of PJ panels and public hearings, we propose a day long series of meetings in Montpelier with staff from the Joint Fiscal Office, the Agency of Education, and the education stakeholder groups. The purpose of these meetings is to debrief from the PJ panels and public hearings and discuss the implications of the outcome of those meetings for the balance of the adequacy study. It will also provide a time for us to discuss other details pertaining to the development of the cost model.

In summary, our comprehensive public input process will include professional judgment panels, public hearings across the state along with a follow-up meeting to debrief with state officials and education stakeholders on the initial findings from the panels and hearings.

Staff members conducting the PJ panels and public hearings will be Picus, Odden, Aportela and Griffith. A detailed description of our staff and their qualifications is provided in the next section of the proposal.

4. CASE STUDIES OF IMPROVING SCHOOLS

We propose to conduct five case studies of improving schools in Vermont. These case studies will supplement the five case studies we conducted in our 2011-12 work in Vermont (see www.picusodden.com). We will seek to identify schools that have produced large improvements in student learning over a four to six year period. In addition, if we can identify such, we will look for schools that have reduced the achievement gap between minority and non-minority students, or have dramatically improved the performance of minority, low income and/or English language learner (ELL) students.

For all the cases, we will use a structured case protocol using a focused approach that determines how the schools produced improvements in student learning, the macro and micro strategies deployed to make those improvements, and the resources deployed to implement those strategies. As appropriate, the staffing and cost recommendations that emerge from the Evidence-Based analysis will be adjusted based on the results from these case studies.

For each school, the principal, instructional coaches and key teachers, including teachers providing an array of extra help strategies, will be interviewed. Some of the interviews will be done individually but in some cases groups of 2-5 teachers will be interviewed. We expect the cases to require ten days per school, including three days for planning, scheduling interviews and reviewing school improvement plans and other relevant documents, one day for interviews and six days for case write up and editing following internal reviews and a review by each school

principal.

We will work with the Agency of Education to identify appropriate student outcome measures to identify potential case study sites and hope to work with the Agency to garner approval from the districts and schools to conduct the case studies. We are aware that the state has an ongoing school improvement project and our intent is that the case studies provide information that is complementary and helpful to that work.

Kathleen Hoyer will conduct the case studies with support from Odden and Picus.

SCOPE OF WORK SUMMARY

As described above, we propose a comprehensive Evidence-Based (EB) approach to conducting a school finance adequacy study for the state of Vermont. Our approach is built around a state specific EB model that includes:

- A detailed description of the elements of our model adjusted to meet the specific needs of Vermont schools and educators
- An Excel based simulation model to estimate the costs of educational adequacy including:
 - The capacity to cost out alternatives suggested through our professional judgment panels and public hearings
 - A second model that simulates one (hypothetical) configuration that combines existing school districts into 900 or more student district configurations
- A comparison to other states that use adequacy based systems to fund public schools with a focus on New England states
- A comprehensive stakeholder and public input process that includes
 - Professional judgment panels
 - Public hearings
 - Meetings with education stakeholder groups
- Comprehensive case studies of the instructional strategies and the allocation and use of resources in five improving schools

MANAGEMENT AND STAFFING PLAN

This project will be managed directly by **Lawrence O. Picus** who will be assisted in all phases of the project by **Allan Odden**. Picus and Odden have collaborated on numerous studies in recent years and as in past studies are jointly responsible for direct relationships with the client as well as for management of all study staff. While either can provide details on any part of the study, Picus will assume responsibility for delivery of all work products and for invoicing the state at agreed upon times. Our staffing plan is described below.

In addition to the work focused on school finance and recalibration of state funding models described above, the principals of Picus Odden & Associates have conducted a wide range of school finance studies across the United States over the past 35 years.

Picus worked with the Oregon Quality Education Commission, assessing the model developed by that state's Quality Education Commission and helping state policy makers develop funding mechanisms to put it in place. Picus has also conducted major equity studies in Louisiana, Kansas, Massachusetts and Montana, and has testified as an expert witness in school finance court cases in Wyoming, Arkansas, Montana, Kansas, Massachusetts, and in 2009 for the state in the *Abbott v. Burke* case in New Jersey. Picus has consulted extensively on school finance issues with more than 20 states.

Odden has worked with school finance task forces in over 25 states over the past 35 years and led studies in Connecticut, South Dakota, Missouri, California, Texas, New York, New Jersey, North Dakota, Wisconsin, Minnesota and South Carolina. He also has worked with numerous states (e.g., Iowa, California, Idaho, Arkansas, and Ohio) and districts (e.g., Cincinnati, Minneapolis, Memphis, Menomonee Falls (WI), Steamboat Springs, Arlington, and Kyrene (AZ)) on alternative forms of teacher compensation, an issue in our mid-2000 work in Arkansas and Washington. He was the court master to the remand judge in 1997-98 in the New Jersey school finance legal deliberations.

Odden, Picus and their colleagues have conducted extensive research on the implementation and evaluation of state school finance reforms (e.g. Picus & Wattenbarger, 1996) including detailed analyses of how education dollars are used at the local level for various educational strategies, most of which are included as recommended programmatic elements of the Evidence-Based approach to school finance adequacy. During these studies, we have trained multiple individuals (some now professors and some still in Ph.D. programs).

Picus and Odden will provide overall leadership for this project and will be responsible for managing each component of the scope of work described in this proposal. In addition, they will be responsible for all communications with the state's project manager. As managing partner and owner of the firm, Picus will be responsible for all contractual issues.

Other staff members who will participate in this study include Mike Griffith, Anabel Aportela, David Knight, and Kathleen Hoyer. A brief description of their qualifications is provided below and short vitas are included in the appendix of this proposal.

Mike Griffith is an independent school finance consultant. He previously served as the Senior School Finance Analyst for the Education Commission of the States (ECS). He has worked in the field of school finance policy for the past 17 years. Mike's research has focused on the condition of state and federal budgets, the adequacy and equity of state finance formulas and promising practices in funding programs for high-need students. Mike has been part of school funding studies in Connecticut, Kansas, Minnesota, Montana, South Carolina and Vermont. While at ECS Mike has worked with policymakers in all 50 states to reshape their school funding systems with the goal of improving student achievement. Mike is an expert resource to national news media and has been quoted over 250 times by such outlets as: CNN, Education Week, NBC Nightly News, National Public Radio and The New York Times.

Griffith will be responsible for developing the state comparative analyses described above and will participate in the EB Professional Judgment Panels.

Anabel Aportela's work in K-12 public education policy and research is focused on school finance, human resource management, student assessment, school accountability, and data-driven decision-making. Her primary interest is in understanding the connection between resource allocation and instructional effectiveness. Anabel has extensive experience working on state-level policy projects, including school finance projects in Anchorage Alaska, Maine, Wisconsin, Wyoming, Arkansas, North Dakota, Illinois, Ohio, and Arizona. In Arizona, she created a set of policy recommendations for the Arizona Business & Education Coalition's *School Finance Reform Initiative* whose goal is to redesign Arizona's school finance system so that it supports increasingly higher levels of student achievement. Prior to her work in school finance, Anabel spent seven years at the Arizona Department of Education where she served as Director of Research & Policy, responsible for the analysis and reporting of student assessment and school accountability results. During this time, she co-developed the *Arizona Measure of Academic Progress*, the state's first value-added approach to measuring student progress and also led the design of the state's first school accountability system. Anabel holds a Ph.D. in Educational Leadership and Policy Analysis from the University of Wisconsin-Madison, as well as a M.A. in Education Policy and B.A. in Public Policy from Stanford University.

Aportela will be responsible for supporting the development of the EB model and will participate in the professional judgment panels and public hearings.

David Knight is completing his Ph.D. studies at the USC Rossier School of Education where he has studied for the past four years. He has worked with a number of faculty including Picus. In his work at USC, Knight helped develop a district level EB model used by Ed.D. students to study and assess the use of educational resources in school districts throughout Southern California. He has also helped develop EB models for Alaska, as well as a comprehensive district level EB model for Anchorage Alaska.

Knight will be responsible for the development of the EB models for this study

Kathleen Hoyer is a Research Analyst for Activate Research, Inc. in Washington DC. She earned her Ph.D. in Educational Leadership and Policy Studies at the University of Maryland at College Park. She has extensive experience in a range of qualitative and quantitative educational

studies and worked with Picus Odden & Associates conducting case studies of improving schools in Maryland.

Hoyer will take the lead in conducting the case studies for this project.

Summary

Picus Odden & Associates is a comprehensive school finance consultancy firm specifically organized to help states address the complex issues of productively funding their Pre-K-12 education systems. For each project we bring together the most highly qualified individuals in the country to work as consultants, thus creating a team tailored to the specific needs of a state. This enables us to be highly responsive to the specific (and often changing) needs of our clients and allows us to make immediate staffing adjustments to ensure that the best people in the field are available to work on any project in a timely and efficient manner. This approach also enables us to keep our overhead rates exceedingly low, focusing Vermont's tax dollars on the study itself. As you can see from our vitas, our team is composed of consultants who are experts in their field, and we are confident that we have the technical and theoretical knowledge to help Vermont tackle specific issues immediately.

Our approach typically is highly interactive, and in Vermont we will work closely with the staff of the Joint Fiscal Office, and other agencies as appropriate. We intend to build relationships with all other stakeholders to ensure the highest quality standards and outcomes. Picus and Odden have worked together as a team for nearly 30 years; they will remain responsible for the outcome of this study throughout its duration. Both are typically available on a daily basis by e-mail and phone, and both will travel to Vermont on a regular basis.

TIMELINE

We will meet the timeline requirements outlined in the RFP. We assume that the State will make a decision regarding who to engage to conduct this adequacy study around July 15, and are prepared to begin work immediately. Assuming we are chosen to do the work, we propose the following timeline for the project.

Mid to Late July 2015 – reach agreement on contract terms and begin work

Mid July to Mid August – review Vermont documents and materials and schedule initial visit

Mid August – Initial site visit to Vermont

- Discuss overall study parameters
- Identify data sources for EB model and case study selection
- Plan for public input meetings
- Establish working relationships with JFO, Agency and stakeholder staff
- Finalize study outcomes

Late September – Conduct Professional Judgment panels and public hearings, meet with officials and stakeholders in Vermont

Early December – Draft Report to the Joint Fiscal Office

- EB analysis
- Summary of PJ panels and public hearings
- Case study findings
- Recommendations and conclusions
- EB model
 - With current school configuration
 - With 900 student combined district simulation

January 15, 2016 – Final Report due

Mid January and beyond – Picus and Odden available to meet with Legislative Committees

BUDGET

The proposed budget for this study is \$288,475. A detailed budget breakdown is provided on the following page.

The budget includes all personnel and travel to conduct the study. Picus Odden & Associates staff (Picus, Odden, Griffith, Aportela and Knight) will devote a total of 144 person days to the project at a total cost of \$219,500. In addition, we will subcontract with Activate Research, Inc. for Kathleen Hoyer and a research assistant to conduct the case studies. The subcontract will total \$35,000 plus estimated travel.

Travel costs are estimated at \$23,000 as follows:

Picus 4 trips to Vermont from Los Angeles at \$2,000 per trip
Odden 4 trips to Vermont from Chicago at \$1,500 per trip
Griffith 2 trips to Vermont from Denver at \$1,750 per trip
Aportela 1 trip to Vermont from Phoenix at \$2,000
Hoyer and RA (case studies) travel to Vermont from Washington DC \$3,000

Finally, an indirect charge of five percent of staff costs will be applied. This charge is not applied to travel or the subcontract with Activate Research and is half of our standard indirect rate of 10%.

Table 1: Proposed Budget for Vermont School Finance Adequacy Study

Staff Member				Total
Picus				\$65,000.00
Odden				\$65,000.00
Griffith				\$22,000.00
Aportela				\$30,000.00
Knight				\$37,500.00
Total Days	144			
Indirect at 5% of Personnel				\$10,975.00
Contract				
Activate, Research, Inc.				\$35,000.00
Travel				
Picus	4 trips from LA		\$8,000.00	
Odden	4 trips from Chicago		\$6,500.00	
Griffith	2 trips from Denver		\$3,500.00	
Aportela	1 trip from Phoenix		\$2,000.00	
Activate Research	case study travel		\$3,000.00	
Subtotal Travel				\$23,000.00
Total Budget				\$288,475.00

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COMMITMENT LETTER FROM ACTIVATE RESEARCH, INC.

June 8, 2015

Lawrence Picus, PhD
Principal Partner
Picus Odden and Associates
lpicus@picusodden.com

Re: Study of the Cost of an Adequate Education in Vermont

Dear Dr. Picus:

On behalf of Activate Research, Inc., I am pleased to offer our resources for the proposed study in Vermont, as described in the RFP: Study of the Cost of an Adequate Education in Vermont.

Please accept this letter as our acknowledgement and documentation of our commitment to provide the necessary support to your team in the proposal for this project. If awarded a contract, Kathleen Hoyer, Ph.D. will work as a member of your case study research team at the cost of \$35,000 to the project.

If there should be any further questions or a need for further clarifications, please contact me at 202-805-9280 or by e-mail at dsparks@activateresearch.net.

Sincerely,



Dinah Sparks, Ph.D.
President
Activate Research, Inc.

RESUMES OF KEY STAFF

LAWRENCE O. PICUS

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University of Southern California
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EDUCATION

- 1988 The RAND Graduate School, Ph.D., Public Policy Analysis
Santa Monica, California
- 1987 University of Chicago, M.A. Social Science
- 1986 The RAND Graduate School. M.Phil. Public Policy Analysis
- 1977 Reed College, Portland, Oregon, B.A. Economics

PROFESSIONAL EXPERIENCE

Professor: Department of Policy and Administration, Rossier School of Education, University of Southern California. April 1999 to the present.
Chair: Rossier School of Education, Faculty Council, June 2009-June 2011
Chair: Division of Policy and Administration, Rossier School of Education, University of Southern California. July 1999 to July 2002
Associate Professor: Department of Policy and Administration, Rossier School of Education, University of Southern California. September 1994 to April 1999.
Director: Center for Research in Education Finance, August 1993 to the present.
Assistant Professor: Department of Policy, Planning and Administration, School of Education, University of Southern California. September 1988 to September 1994.
Associate Director: Center for Research in Education Finance, December 1989 to August 1993
Consultant: The RAND Corporation. March 1989 to December 1994.
Graduate Fellow: The RAND Graduate School, the RAND Corporation. July 1984 to September 1988.

SELECTED RECENT PUBLICATIONS

Books

- Brewer, D. and Picus, L.O. (eds.). (2014). *Encyclopedia of Education Economics and Finance* (Vols 1-2). Thousand Oaks, CA: Sage Publications
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- Picus, L.O. (2006). Funding California's Schools, Part 1: Past, Present, and Future? In *Crucial Issues in California Education 2006: Berkeley, CA: Rekindling Reform*. Policy Analysis for California Education, pp. 15-26
- Rubenstein, R. and Picus, L.O. (2003). Politics, The Courts and the Economy: Implications for the Future of School Financing. In Sjoquist, D.L. ed. *State and Local Finance Under Pressure*. Northampton, MA: Edward Elgar Publishing. pp. 60-89.
- Picus, L.O. (2003). Decision Making in Schools, Economic Analysis. In Guthrie, J. ed. *Encyclopedia of Education*. New York, NY: Macmillian.
- Picus, L.O. (2003). Financial Support of Schools: 3. State Support. In Guthrie, J. ed. *Encyclopedia of Education*. New York, NY: Macmillian.
- Picus, L.O. (2003). School Facilities: Maintenance and Modernization of. In Guthrie, J. ed. *Encyclopedia of Education*. New York, NY: Macmillian.
- Picus, L.O., McCroskey, J., Robillard, E., Yoo, J., and Marsenich, L. (2002). Using Student Level Data to Measure School Finance Adequacy: An Exploratory Analysis. In Roellke, C. and Rice, J.K. eds. *Fiscal Issues in Urban Schools*. Volume 1 of *Research in Education Fiscal Policy and Practice*. Greenwich, CT: Information Age Publishing, Inc. pp. 181-201.
- Picus, L.O. (2001). Educational Governance in California: Defining State and Local Roles. In Sonstelie, J. and Richardson, P. (eds). *School Finance and California's Master Plan for Education*. San Francisco, CA: Public Policy Institute of California.

- Picus, L.O. (2001). "Urban School Reform and School Finance: Implications for Chicago." In Simmons, J. ed. *School Reform in Chicago: Lessons and Opportunities*. Chicago, IL: Chicago Community Trust, August. 215-224.
- Picus, L.O. (2001). Improving Student Learning: How Does Money Matter? In Joseph, L.B. (ed.). *Education Policy for the 21st Century*. University of Illinois Press. pp. 205-232
- Picus, L.O. (2000). Current Issues in Public Urban Education. In Wassmer, R.W. *Readings in Urban Economics: Issues and Public Policy*. Malden MA: Blackwell Publishers. 283-294.
- Picus, Lawrence O. and Peternick, Lauri. (2000). Developing Student Resource Variables for the Early Childhood Longitudinal Survey. In Fowler, William, (ed.). *Developments in School Finance, 1998*. Washington, DC: National Center for Educational Statistics. pp. 105-125

SHORT RESUME FOR ALLAN R. ODDEN

EDUCATION: Columbia University, Ph.D., 1975; Columbia University, M.A., 1971; Union Theological Seminary, M. Div., 1969, Brown University, B.S., 1965

SPECIALIZATIONS: Public School Finance including Effective Use of Resources, Resource Reallocation, Policy and Program Implementation, Costs of School Improvement, Strategic Management of Education, Teacher Compensation

PROFESSIONAL EMPLOYMENT

June 2000 to present	Principal Partner, Picus Odden and Associates
January 2008 to May 2013	Director, Strategic Management of Human Capital (SMHC)
March 1996 to present	Co-Director, Consortium for Policy Research in Education (CPRE)
July 1993 to Dec. 2011	Professor, Educational Leadership & Policy Analysis School of Education, University of Wisconsin, Madison
December 1990 to Feb. 1996	Director, Finance Center of CPRE
December 1989 to 1993	Director, USC Center for Research in Educational Finance
Sept 1984 to 1993	Assoc. & Full Professor, School of Education, University of Southern California
May 1985 to 1993	Co-Director, Policy Analysis for California Education (PACE)
June 1975 to August 1984	Assistant Executive Director, Dir. of Policy Analysis and Research, and Dir. Education Finance Center, Education Commission of the States
March 1979 to March 1980	President, American Education Finance Association
June 1974 to March 1975	Research Associate, Teachers College, Columbia Univ.
September 1967 to June 1972	High School Mathematics Teacher, New York City Schools

Director or lead consultant, State School Finance Commissions: Connecticut, 1974; South Dakota, 1976; Missouri, 1976, 1993; New York, 1978-1982; Texas, 1988-1989; New Jersey, 1991-92, 1997-98; Arkansas, 2003, 2005; Arizona, 2004; Wyoming, 2005, 2007, 2010, 2014; Washington, 2006; Wisconsin 2005-2007; North Dakota 2008, 2014; Vermont, 2011-12; Maine 2012-13; Maryland, 2014-2016.

SELECTED BOOKS AND MONOGRAPHS

2014 School Finance: A Policy Perspective, Fifth Edition. New York: McGraw Hill. With Lawrence Picus. 1st edition in 1992.

2012 Improving Student Learning When Budgets Are Tight. Corwin Press.

2011 Strategic Management of Human Capital in Education. Routledge Press.

2009 Ten Strategies for Doubling Student Performance. Corwin Press.

2009 Doubling Student Performance ... and finding the resources to do it. Corwin Press. With Sarah Archibald.

2007 How to Achieve World Class Teacher Compensation. St. Paul: Freeload Press. With Marc Wallace. Available for free download at: www.freeloadpress.com.

2007 Rewarding Teacher Excellence: A Teacher Handbook for State and Local Policymakers. Madison: University of Wisconsin. With Marc Wallace.

2004 Assessing Teacher, Classroom and School Effects. Peabody Journal of Education, 79(4). Special issue guest editor.

2002 Paying Teachers for What They Know and Do: New and Smarter Compensation Strategies to Improve Schools. 2nd Edition. Thousand, Oaks, CA: Corwin Press. With

- Carolyn Kelley.
- 2001 Reallocating Resources: How To Boost Student Achievement Without Spending More. Thousand Oaks, CA: Corwin Press. With Sarah Archibald.
- 2000 School Finance: A Policy Perspective, 2nd Edition. New York: McGraw Hill. With Lawrence Picus.
- 1999 School Based Financing. Thousand Oaks: Corwin Press. Edited with Margaret Goertz.
- 1998 Funding School for High Performance. With Carolyn Busch. San Francisco: Jossey-Bass.
- 1997 Paying Teachers For What They Know and Do: New and Smarter Compensation Strategies to Improve Schools. Thousand Oaks, CA: Corwin Press. With Carolyn Kelley.
- 1995 Education Leadership for America's Schools: An Introduction to Organization and Policy. New York: McGraw Hill. With the assistance of Eleanor Odden.
- 1992 Rethinking School Finance: An Agenda for the 1990s. San Francisco: Jossey-Bass.
- 1992 Conditions of Education in California: 1991. Berkeley, Calif.: University of California, Policy Analysis for California Education (PACE). With James Guthrie and Michael Kirst.
- 1991 Education Policy Implementation. Albany, N.Y.: State University of New York Press. An edited book of readings.
- 1991 Conditions of Education in California: 1990. Berkeley, Calif.: University of California, Policy Analysis for California Education (PACE). With James Guthrie, and Michael Kirst.
- 1990 Conditions of Education in California: 1989. Berkeley, Calif.: University of California, Policy Analysis for California Education (PACE). With James Guthrie and Michael Kirst.

SELECTED ARTICLES AND CHAPTERS

- 2012 Can We Pay for Current Education Reform? Principal Leadership. September.
- 2011 Schools Can Still Improve. Educational Leadership, 69(4), 14-15.
- 2011 Improving Teaching and Learning When Budgets are Tight. Phi Delta Kappan, 93 (1), 42-48. With Lawrence O. Picus.
- 2011 The Dollars and Sense of Comprehensive Professional Learning. Journal of Staff Development, 32(4), 26-32.
- 2011 Reinventing School Finance: Falling Forward. Peabody Journal of Education, Special Issue, 86(3), Spring 2011, 291-303. Editors Tamara V. Young and Bonnie Fusarelli. With Lawrence O. Picus.
- 2011 Manage "Human Capital" Strategically. Phi Delta Kappan, forthcoming, April.
- 2010 A 50 State Strategy to Achieve School Finance Adequacy. Educational Policy. With Lawrence O. Picus and Michael Goetz. 24(4), 628-654.
- 2010 Merging Costs with Effective Resource Strategies. In Jacob Adams, Jr., Ed. Smart Money: Using Educational Resources to Accomplish Ambitious Learning Goals (pp. 141-156). Cambridge: Harvard Education Press. With Michael Goetz and Lawrence O. Picus.
- 2008 School Level Resource Use in Arkansas Following an Adequacy Oriented School Finance Reform. Prepared for the Arkansas Legislature. With Michelle Turner Mangan and Lawrence O. Picus.
- 2008 Using Available Evidence to Estimate the Cost of Educational Adequacy. Education Finance and Policy. 3(3). 374-397. With Lawrence O. Picus and Michael Goetz.
- 2008 The Cost of Instructional Improvement: Resource Allocation in Schools Using Comprehensive Strategies to Change Classroom Practice. Journal of Education Finance, 33(4), 382-406. With Margaret Goertz, Michael Goetz, Sarah Archibald, Betheny Gross, Michael Weiss, & Michelle Turner Mangan.

- 2008 Strategic Management of Human Capital in Public Education. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education, Strategic Management of Human Capital. With James A. Kelly.
- 2008 New Teacher Pay Structures: The Compensation Side of the Strategic Management of Human Capital. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education.
- 2008 How to Fund Teacher Compensation Changes. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education.
- 2007 Intergovernmental Aid Formulas and Case Studies. In Helen Ladd and Ted Fisk, Eds. *Handbook of Research in Education Finance and Policy*. Published on behalf of the American Education Finance Association by Lawrence Erlbaum, Inc. With Lawrence O. Picus and Margaret Goertz.
- 2005 Teacher Accountability Measures and Links to Learning. In L. Stiefel & A. E. Schwartz & R. Rubenstein & J. Zabel (Eds.). Measuring School Performance and Efficiency: Implications for Practice and Research (pp. 137-161). Larchmont, NY: Eye on Education. With Anthony Milanowski & Steve Kimball.
- 2004 Assessing Teacher, Classroom, and School Effects, Including Fiscal Effects. Peabody Journal of Education. 79(4), 4-32. With Geoffrey Borman and Mark Fermanich.
- 2004 Lessons Learned About Standards-Based Teacher Evaluation Systems. Peabody Journal of Education. 79(4), 126-127.
- 2004 Assessing the Equity of Kentucky's SEEK Formula: A Ten Year Analysis. Journal of Education Finance. 29(4), 315-336. With Lawrence O. Picus and Mark Fermanich.
- 2004 Inside the Black Box of School District Spending on Professional Development: Lessons from Five Urban Districts. Journal of Education Finance. 30(1), 1-26. With Karen Hawley Miles, Mark Fermanich and Sarah Archibald.
- 2003 Equity and Adequacy in School Finance Today. Phi Delta Kappan. 85(2), 120-125.
- 2003 Using Public Education Money to Produce Higher Education Performance. In Brent Davies and John West-Burnham, Eds. Handbook of Educational Leadership and Management (pp. 324-334). London: Pearson Education Limited.
- 2003 Rethinking the Finance and Governance Systems for Improved Student Outcomes. In William Boyd, Ed. American Educational Governance on Trial: Change and Challenge (pp. 82-113). Chicago: National Society for the Study of Education. With Sarah Archibald and Mark Fermanich.
- 2003 Defining School-Level Expenditure Structures That Reflect Educational Strategies. Journal of Education Finance. 29(3), 323-356. With Sarah Archibald, Mark Fermanich and Betheny Gross.
- 2002 A Cost Framework for Professional Development. Journal of Education Finance, 28(1), 51-74. With Sarah Archibald, Mark Fermanich and H. Alix Gallagher.
- 2002 A Framework for Identifying Professional Development Costs. Journal of Professional Development. 23(2), 53-58. With Sarah Archibald, Mark Fermanich and H. Alix Gallagher.

Selected Reports

- 2008 School Level Resource Use in Wyoming Following Adequacy-Oriented Finance Reform. Prepared for the Wyoming Legislative Service Office. Available at, <<http://legisweb.state.wy.us/2008/interim/schoolfinance/Resources.pdf>>. With Lawrence O. Picus, Anabel Aportela, Michelle Turner Mangan, and Michael Goetz.

- 2012 *An Evaluation of Vermont's Education Finance System*. Los Angeles, CA: Lawrence O. Picus and Associates. Available at: <http://www.picusodden.com>. With Lawrence O. Picus, William Glenn, Michael Griffith & Michael Wolkoff
- 2010 *2010 Cost of Education Study: Submitted to the Select School Finance Committee of the Wyoming State Legislature*. Los Angeles, CA: Lawrence O. Picus and Associates. Available at: <http://www.picusodden.com>. With Lawrence O. Picus.
- 2010 *Using the Evidence-Based Model in Strategic Budgeting: Examples from four Diverse Ohio Districts*. Los Angeles, CA: Lawrence O. Picus and Associates. Available at: <http://www.picusodden.com>. With Lawrence O. Picus.
- 2009 *Making More Progress in Identifying How Schools Use Resources in Ways that Boost Student Performance on State Tests*. North Hollywood, CA: Lawrence O. Picus and Associates. Prepared for the Wyoming Department of Education. With Lawrence O. Picus, Sarah Archibald and Jo Smith.
- 2008 *Implementing School Finance Adequacy: School Level Resource Use in Wyoming Following Adequacy-Oriented Finance Reform*. North Hollywood, CA: Lawrence O. Picus and Associates. Prepared for the Wyoming Legislative Service Office. Available at, <<http://legisweb.state.wy.us/2008/interim/schoolfinance/Resources.pdf>. With Lawrence O. Picus, Anabel Aportela, Michelle Turner Mangan, and Michael Goetz.
- 2007 *Moving From Good to Great in Wisconsin: Funding Schools Adequately and Doubling Student Performance*. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education. With Lawrence O. Picus, Sarah Archibald, Michael Goetz, Anabel Aportela and Michelle Turner Mangan. Available at: <http://www.picusodden.com>.
- 2006 Fermanich, Mark, Picus, Lawrence O., Odden, Allan, Mangan, M.T., Gross, B., & Rudo, Z. (2006). *A Successful-Districts Approach to School Finance Adequacy in Washington*. Analysis prepared for the K-12 Advisory Committee of Washington Learns. Available at <http://www.picusodden.com>.
- 2006 *An Evidence-Based Approach to School Finance Adequacy in Washington*. Report prepared for Washington Learns. With Lawrence O. Picus, Michael Goetz, Michelle Mangan and Mark Fermanich. Available at: <http://www.picusodden.com>.
- 2006 Odden, Allan, Picus, Lawrence O., & Goetz, Michael. *Recalibrating the Arkansas School Funding Structure*. A report prepared for the Adequacy Study Oversight Sub-Committee of the House and Senate Interim Committees on Education of the Arkansas General Assembly. Little Rock, AR.
- 2005 Odden, Allan, Picus, Lawrence O., Goetz, Michael, Fermanich, Mark, Seder, Richard C., Glenn, William, & Nelli, Robert. *An Evidence-Based Approach to Recalibrating Wyoming's Block Grant School Funding Formula*. Report prepared for the Wyoming Select Committee on Recalibration, Cheyenne, WY. <http://www.picusodden.com>.
- 2004 *An Evidence-Based Approach to School Finance Adequacy in Arizona*. Paper prepared for the Rodel Charitable Foundation of Arizona, Arizona. <http://www.picusodden.com>.
- 2003 *Evidence-Based Approach to School Finance Adequacy in Arkansas*. Paper prepared for the Joint Committee on Educational Adequacy. Little Rock, Arkansas. With Lawrence O. Picus. <http://www.picusodden.com>.
- 2003 *A Professional Judgment Approach to School Finance Adequacy in Kentucky*. Paper prepared for the Kentucky Department of Education. With Lawrence O. Picus and Mark Fermanich. <http://www.picusodden.com>.

RESUME

ANABEL APORTELA, PH.D.

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Phoenix, AZ 85013
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Professional Profile

- Experienced in the field of education policy at the state and local level, with an emphasis on school finance, charter schools, student assessment, school accountability, and data-driven decision-making.
- Experienced in the design, budgeting, management, and implementation of small and large-scale research projects.
- Comfortable in a fast-paced, complex, collaborative work environment that requires attention to multiple projects, project teams, and deadlines.
- Effective communicator with years of experience presenting complex information, in a variety of formats, to diverse audiences.
- Skilled in large-scale database management and proficient in the use of various tools (SPSS, Tableau, Microsoft Access & Excel) for analysis and reporting.

Education

- University of Wisconsin-Madison, Ph.D., Education Leadership & Policy Analysis, 2010
- Stanford University, M.A., Educational Administration & Policy Analysis, 1995
- Stanford University, B.A., Public Policy, 1993

Professional Experience

Director of Research & Evaluation, Center for Student Achievement, 2012-present

- Lead the Center's research efforts to inform education policy in the state through the investigation and reporting of the impact or potential impact of key education policies
- Identify best practices in district and charter schools in order to inform the Center's professional development efforts aimed at improving the quality of instruction in all Arizona public schools.
- Provide technical assistance to charter and district schools in the areas of school accountability, data-driven instruction, and resource allocation.

Associate, Picus Odden & Associates, 2006-present

- Conduct school case studies by interviewing school and district personnel to understand the use of resources in schools. States include Maryland, Maine, North Dakota, and Arkansas
- Build school funding models to simulate the impact of the Evidence-Based Model in various states and policy contexts. Projects include Maine, Texas, and Ohio.
- Perform school expenditure analyses using statewide school finance expenditure databases. Projects include Arkansas and Wyoming

Resource & Sustainability Administrator, Rewarding Excellence in Instruction & Leadership (REIL) Grant, Maricopa County Education Service Agency, 2011-2012

- Problem-solved and made recommendations on issues of sustainability aimed at ensuring that grant accomplishments remain in place after the REIL Grant expires.
- Worked with and guided REIL Grant districts to reallocate district resources to fund district contribution of REIL teacher incentives (REIL is a \$51 million Teacher Incentive Fund grant)
- Designed funding model for each REIL Grant district to simulate options for resource reallocation and alternative salary schedules
- Sought out alternative sources of revenues to fund district portions of teacher incentives, including drafting proposed legislation
- Worked in partnership with the Arizona Department of Education in the development of the data management system to support REIL Grant objectives
- Facilitated requirement-gathering meetings among grant stakeholders to determine the business needs for the data management system
- Assisted REIL Grant Program Director in meeting budgeting, monitoring, and reporting requirements of the grant

Consultant, Arizona Business & Education Coalition (ABEC), 2008-2010

- Managed the ABEC's School Finance Reform Initiative (SFRI) aimed at redesigning Arizona's school finance system so that it supports increasingly higher levels of student learning
- Developed policy proposals and facilitate their discussion among stakeholders and policymakers
- Conducted analyses of the current Arizona school finance system and present results to education stakeholders and policymakers
- Supervised Project Analyst in the development of an electronic simulation model of Arizona's school finance formula in order to simulate the costs of the SFRI

Consultant, City of Phoenix, Communities Learning in Partnership (CLIP), 2009-2010

- Provided data analysis support to the CLIP-Phoenix site, a collaboration between the City of Phoenix, the Phoenix Union High School District (PUHSD), the Maricopa Community College District (MCCCD), and other community-based organizations seeking to improve college-completion rates among low-income youth in Phoenix
- Built and maintained the CLIP Database, linking student-level demographic and transcript data from PUHSD and the MCCCD, allowing for longitudinal analyses of students' trajectory through high school and community college

- Conducted analyses exploring the relationship between high school course and sequence, grades, and high school exit exam scores to community college matriculation patterns and completion of degrees or certificates

Consultant, National-Louis University, 2009-2010

- Built an electronic simulation model of Illinois' school finance formula in order to simulate the costs of the recommendations of the Illinois Study of School Finance Adequacy

Research Staff, Strategic Management of Human Capital, a Project of the Consortium for Policy Research in Education, 2008

- Conducted case studies of teacher recruitment, preparation and professional development organizations

Project Assistant, Consortium for Policy Research in Education, School Finance Project, 2005-2008

- Built an electronic simulation model of Wisconsin's school finance formula in order to simulate the costs of all possible scenarios in the design of Wisconsin's Study of School Finance Adequacy
- Provided research support for the Wisconsin School Finance Network, a group of education stakeholders seeking to redesign the state's school finance formula
- Conducted research on various school finance topics, primarily school finance adequacy, teacher compensation, and the link between resource allocation and student achievement

Director of Research, Dysart Unified School District, 2003 - 2004

- Performed analyses of the district's student achievement data, including trends and measures of student growth over time
- Reported results to district and school administrators
- Provided professional development to teachers on the interpretation of student achievement data and the use of these to help guide classroom instruction

Research & Evaluation Officer, Rodel Charitable Foundation of Arizona, 2002 - 2003

- Conducted research and program evaluation to support the Foundation's initiatives
- Laid the groundwork for the Foundation's School Finance Adequacy Study, interviewing bidders and helping to secure a steering committee of education stakeholders to guide the process

Director of Research & Policy, Arizona Department of Education (ADE), 2001 - 2002

- Led a group of education stakeholders in designing the AZ LEARNS school accountability methodology, the state's first school accountability system, which was later used to fulfill the state's No Child Left Behind reporting requirements
- Published, on an annual basis, the *AZ LEARNS Achievement Profiles*, *Arizona School Report Cards*, *Graduation Rate Study*, *Dropout Rate Study*, *Arizona Measure of Academic Progress*, and *Arizona School Safety Study*
- Briefed and advised the Arizona Superintendent of Public Instruction on matters of school accountability and student achievement
- Presented report results to numerous school and public audiences and served as a representative of the Superintendent and the ADE with regard to school accountability and student achievement, including presentations to Spanish-speaking audiences

- Worked closely with the ADE's Press Secretary to provide members of the media with timely and accurate information
- Advised other units within the ADE on matters related to data collection, analysis, and reporting
- Collaborated with various state and national research organizations to produce original research
- Hired, directed, and supervised department research staff and web developers
- Managed a \$1 million department operating budget

Research Associate, Research and Policy, Arizona Department of Education, 1999 - 2001

- Co-developed and published the *Arizona Measure of Academic Progress*, the state's first measure of individual student growth, using value-added analysis
- Provided professional development to school administrators and teachers on the interpretation and use of the *Arizona Measure of Academic Progress* to inform school-level decision-making and classroom instruction
- Analyzed data and reported on various educational indicators to school and public audiences, including Spanish-speaking audiences
- Assisted the special education, school safety, early childhood education, and federal program units within the ADE with data analysis and reporting requirements

Program Specialist, Research & Evaluation, Arizona Department of Education, 1997 - 1999

- Coordinated with CTB/McGraw-Hill and NCS (now Pearson), the state's testing contractors, the development of the initial test forms of Arizona's Instrument to Measure Standards (AIMS), the state's criterion-referenced test
- Planned and oversaw the teacher committee meetings tasked with writing and reviewing AIMS test items
- Coordinated with the testing contractors and district administrators on the execution of AIMS field testing, pilot testing, and live administrations of the test
- Presented AIMS-related information to various school and public audiences, including Spanish-speaking audiences

Research Analyst, Research & Evaluation, Arizona Department of Education, 1995 - 1997

- Wrote a series of policy briefs for the Arizona Superintendent of Public Instruction
- Tracked and analyzed proposed legislation for the Department's Legislative Liaison
- Assisted school and district personnel in the submission of data to the Department

Publications

Picus, L., Odden, A., Geotz, M., Griffith, M., Glenn, W., Hirshber, D., & Aportela, A. (2013). *An Independent Review of Maine's Essential Programs and Services Funding Act*. North Hollywood, CA: Lawrence O. Picus & Associates.

Aportela, A., & Laczko-Kerr, I. (2013). *School Ratings: Improving the Data in Data Driven Decision Making*. Phoenix, AZ: Center for Student Achievement.

Aportela, A., & Laczko-Kerr, I. (2013). *Oh, the Places They'll Go!: Arizona Public School Choice and Its Impact on Students*. Phoenix, AZ: Center for Student Achievement.

Mangan, M.T., Purinton, T., & Aportela, A. (2010). *Illinois School Finance Adequacy Study – Part I: A Comparison of Statewide Simulation of Adequate Funds to Current Revenues*. Chicago, IL: National-Louis University.

Glenn, W. J., Picus, L. O., Odden, A., & Aportela, A. (2009). The equity of school facilities funding: Examples from Kentucky. *Education Policy Analysis Archives*, 17(14).

Odden, A.R., Picus, L.O., Archibald, S., Goetz, M.E., Mangan, M.T., & Aportela, A. (2007). *Moving From Good to Great in Wisconsin: Funding Schools Adequately and Doubling Student Performance*. Madison, WI: Center for Policy Research in Education.

Awards

- Arizona Governor's Spirit of Excellence Award, 2000
- Arizona Administrators Association, Finalist, Employee of the Year, 1998

MICHAEL GRIFFITH

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Denver, Colorado 80202
(720) 272-1826
Griff103@hotmail.com

EMPLOYMENT HISTORY

School Funding Consultant

2012 - Present

Working with clients on a variety of education policy topics including: Early learning funding, the current condition of state education budgets and the adequacy and equity of school funding in states. Current and former clients include: Education Commission of the States, Illinois State Board of Education, Kentucky Council for Better Education, Pew Charitable Trusts - Philadelphia Research Initiative, Picus Odden & Associates and Research on Social and Educational Change (RSEC) and state legislatures in Colorado, Delaware, Maine, Maryland, Pennsylvania and Rhode Island.

School Funding Consultant, GLG Research

2010 – present

- Supply information and advice about the current status of state and federal education budgets to businesses investing in the field of public education
- Provide clients with analyses of state and federal legislation to help them assess the impact on their business

Senior School Finance Analyst, Education Commission of the States

2008 - 2012

Policy Analyst, Education Commission of the States

2000 - 2008

- Managed ECS's education finance efforts, produced policy briefs, reports, presentations and other documents that are published to the ECS website and distributed to educators and legislators nationwide
- Oversaw project and proposal budgets ranging from \$15,000 to over \$1 million. Worked directly with stakeholders including the National Center on Time and Learning, Pearson Publishing, Pew Center on the States and multiple state government clients.
- Worked as part of a team on school funding adequacy and equity studies in Connecticut, Kansas, Maryland, Missouri, Montana, South Dakota and Vermont
- Conducted research on various education topics, including: the condition of state budgets, the adequacy and equity of state finance formulas, state funding of early-learning programs and promising practices in funding programs for high-need students
- Assisted in acquiring financial support from private funders, including: Ford Foundation, Foundation for Child Development, Bill and Melinda Gates Foundation, GE Foundation, Pre-K Now and the Pew Charitable Trusts
- Worked with state policy makers, and their staff, to shape early learning, K-12 and higher education funding policy in all fifty states

- Testified to state legislatures or governors' commissions in twenty-five states on educational issues, including: charter schools, education funding, school choice, virtual learning and vouchers
- Quoted over 250 times by numerous national media outlets, including: CNN, Education Week, NBC Nightly News, National Public Radio and The New York Times
- Presented on various education policy issues to numerous local, state and national organizations, including: Council of State Governments, Education Writers Association, League of Women Voters, National Association of Latino Elected & Appointed Officials, National Conference of State Legislatures and National School Boards Association

Policy Analyst, Consulting Firm of Augenblick & Myers 1999 – 2000

- Worked on research projects in areas that included adequacy in school funding, school district consolidation and special education funding reform in order to assist policymakers in Kansas, Minnesota and South Carolina

Finance/Tax Policy Analyst, Michigan State Senate – Minority Staff 1995 – 1999

- Staffed the Michigan Senate Taxation/Finance and Capital Construction committees.
- Drafted legislation dealing with taxation, K-12 and higher education funding, bonding and capital construction
- Helped design Request for Proposals and Request for Qualifications for state projects.
- Monitored the K-12, higher education and capital construction budgets
- Worked with state and national groups to draft or amend legislation. Groups included: AFL-CIO, American Association of School Administrators, Michigan Chamber of Commerce, National Association of State Boards of Education, National Education Association and state universities and community colleges

EDUCATION

M.Ed. (Education Management) - Trinity College, University of Dublin

M.P.A (Government Finance) - The Ohio State University

B.A. (Political Philosophy) - James Madison College at Michigan State University

OTHER

- Member of The Association for Education Finance and Policy (Formally the “American Education Finance Association”)
 - Treasurer, Parkhouse Foundation for Brain Injury
 - Volunteer consultant for the Colorado Hunger Campaign
-

RECENT PUBLICATIONS

- 2015 [Progress of Education Reform: A Look at Funding Students with Disabilities.](#) Education Commission of the States.
- 2015 [A School Funding Formula for Philadelphia.](#) The Pew Charitable Trusts. With Maria Millard.
- 2014 [Adequacy for Excellence in Kentucky.](#) Picus Odden & Associates. With Michael Goetz, Allan Odden, Lawrence O. Picus, Anabel Aportela and Adriane Williams.
- 2014 [What State Policymakers Need to Know about Funding Virtual Charter Schools.](#) Education Commission of the States
- 2013 [An Independent Review of Maine’s Essential Programs and Services Funding Act.](#) Picus Odden & Associates. With Lawrence O. Picus, Allan Odden, Michael Goetz, William Glenn, Diane Hirshberg and Anabel Aportela.
- 2012 [Understanding State School Funding.](#) Education Commission of the States.
- 2012 [An Evaluation of Vermont’s Education Finance Systems.](#) Picus Odden & Associates. With Lawrence O. Picus, Allan Odden, William Glenn and Michael Wolkoff.

David S. Knight

Rossier School of Education | University of Southern California
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EDUCATION

Ph.D., Urban Education Policy **Expected 2015**

University of Southern California, Los Angeles, CA

Dissertation: *School resource allocation in times of economic boom and bust: Three essays on district budget management*

Advisor: Katharine O. Strunk

Committee members: Katharine O. Strunk (chair), Lawrence O. Picus, and Gary D. Painter

M.A., Economics **2015**

University of Southern California, Los Angeles, CA

Thesis: *Are there hidden costs to conducting teacher layoffs? The impact of job insecurity on teacher effectiveness in the Los Angeles Unified School District*

Committee members: Geert Ridder (chair), Jeffrey B. Nugent, and Katharine O. Strunk

M.A., Economics Education **2010**

University of Kansas, Lawrence, KS

Thesis: *Assessing the cost of instructional coaching* (awarded honors)

Committee members: Barbara J. Phipps (chair), Donald D. Deshler, and Joshua L. Rosenbloom

B.A., Anthropology **2008**

University of Kansas, Lawrence, KS

B.S., Economics **2007**

University of Kansas, Lawrence, KS

PROFESSIONAL EXPERIENCE

Research Assistant, Center on Educational Governance 2011-present

University of Southern California, Los Angeles, CA

Research Consultant, Picus, Odden, & Associates 2011-present

North Hollywood, CA

Research Assistant, Center for Research on Learning 2010-2011

University of Kansas, Lawrence, KS

Graduate Research Assistant, Multicultural Scholars Program 2008-2010

University of Kansas, Lawrence, KS

REFEREED JOURNAL ARTICLES

Knight, J., Elford, M. D., Hock, M. F., Dunekack, D., Bradley, B., Deshler, D. D., & **Knight, D. S.**, (2015). Three steps to great coaching: A simple but powerful instructional coaching cycle nets results. *Journal of Staff Development*, 36(1), 10-18.

Knight, D. S. (2012). Assessing the cost of instructional coaching. *Journal of Education Finance*, 38(1), 52-80.

Knight, J., Bradley, B. A., Hock, M., Skrtic, T. M., **Knight, D. S.**, Brasseur-Hock, I., Clark, J., Ruggles, M., & Hatton, C. (2012). Record, replay, reflect: Videotaped lessons accelerate learning for teachers and coaches. *Journal of Staff Development*, 33(2), 18-23.

BOOK CHAPTERS

Knight, J., **Knight, D. S.**, & Hock, M. (Forthcoming). Instructional coaching: Improving instruction through relationship building. In C. M. Reigeluth (Ed.). *Instructional-design theories and models: A new paradigm of instructional theory, volume IV*. New York, NY: Routledge.

Bradley, B. A., Harvey, S., Knight, J., Hock, M., Skrtic, T. M., Deshler, D., **Knight, D. S.**, & Brasseur-Hock, I. (2013). Improving instructional coaching to support middle school teachers in the United States. In T. Plomp & N. Nieveen (Eds.), *Educational design research – Part B: Introduction and illustrative cases*. Pp. 299-318. Enschede, the Netherlands: SLO.

OTHER PUBLICATIONS

Picus, L. O., Odden, A. R. Goetz, M. & **Knight, D. S.** (2014). District/school resource gap analysis. *School finance simulation model to accompany Odden, A. R. & Picus, L. O. (2013). School Finance: A Policy Perspective, 5th ed.*

Picus, L. O., Monk, D. H. & **Knight, D. S.** (2012). Measuring the cost effectiveness of rich clinical practice in teacher preparation: Part one, understanding the problem. Paper prepared for the National Council for Accreditation of Teacher Education.

Knight, J., & **Knight, D. S.** (2008). *Instructional coaching: A partnership approach to improving instruction, a facilitator's guide*. Thousand Oaks, CA: Corwin Press.

Knight, D. S., & Knight, J. (2007). Facilitating professional development for instructional coaching. In *Instructional Coaching: A Partnership Approach to Improving Instruction*. Lawrence, KS: Instructional Coaching Group.

PRESENTATIONS

Knight, D. S. (2015, April). Is class size reduction cost-effective? Comparing the cost-effectiveness of class size reduction and teachers' salary increases under various policy designs. Paper presented at the Annual Conference of for the American Educational Research Association, Chicago, IL.

Strunk, K. O., & **Knight, D. S.** (2015, February). Are there hidden costs to conducting teacher layoffs? The impact of layoffs on teacher effectiveness. Paper presented at the Annual Conference of the Association for Education Finance and Policy, Washington, D.C.

Strunk, K. O., Goldhaber, D., Brown, N. & **Knight, D. S.** (2015, February). Lessons learned from the Great Recession: The case of teacher layoff threats. Paper presented at the Annual Conference of the Association for Education Finance and Policy, Washington, D.C.

Knight, D. S. (2014, November). Cost-effectiveness in the context of budget restoration: Implementing the Local Control Funding Formula in the Los Angeles Unified School District. Poster presented at the Annual Conference of the Association for Public Policy and Management, Albuquerque, NM.

Goldhaber, D., Strunk, K. O., Brown, N. & **Knight, D. S.** (2014, November). Lessons learned from the Great Recession: The case of teacher layoff threats. Paper presented at the Annual Conference of the Association for Public Policy and Management, Albuquerque, NM.

Knight, D. S. (2014, April). School finance equity under census-based funding: Assessing the merits of New Jersey's School Finance Reform Act. Paper presented at the Annual Conference of the American Educational Research Association, Philadelphia, PA.

Knight, D. S. (2014, March). Resource allocation in the context of budget restoration: Examining the cost-effectiveness of raising teachers' salaries or reducing class size in the Los Angeles Unified School District. Paper presented at the Annual Conference of the Association for Education Finance and Policy, San Antonio, TX.

Knight, D. S. (2013, April). The meaning of equity in school finance. Assessing the census-based approach to funding special education. Paper presented at the Annual Conference of the American Educational Research Association, San Francisco, CA.

Knight, D. S., & Duncheon, J. C. (2013, March). Investigating the effects of high school environment on college attendance and persistence. Paper presented at the Annual Conference of the Association for Education Finance and Policy, New Orleans, LA.

Knight, D. S., Hock, M., Knight, J., Skrtic, T., Bradley, B., & Deshler, D. (2013, April). Estimating the effects of instructional coaching on pedagogical practices and student engagement: Evidence from classroom observation. Poster presented at the Annual

Conference of the Association for Education Finance and Policy, New Orleans, LA.

Knight, D. S., & Picus, L. O. (2012, March). Teacher collaboration time and class size: Is there a tradeoff? Paper presented at the Annual Conference of the Association for Education Finance and Policy, Boston, MA.

Welsh, R. O., & **Knight, D. S.** (2012, March). Education development traps and instruments: How Singapore left Jamaica and Tanzania behind. Paper presented at the Annual Conference of the Association for Education Finance and Policy, Boston, MA.

Knight, D. S., Hock, M., Knight, J., Skrtic, T., Bradley, B., & Deshler, D. (2012, April). Assessing the impact of instructional coaching: Evidence from classroom observation. Paper presented at the Annual Conference of the American Educational Research Association, Vancouver, BC, Canada.

Hock, M. F., & **Knight, D. S.** (2011, October). What is the impact of instructional coaching on teaching practices and student achievement? In Knight, J. (Chair). Understanding instructional coaching: Mixed methods analysis of a promising professional development practice. A symposium presented at the Annual Instructional Coaching Conference, Lawrence, KS.

Bradley, B., Knight, J., **Knight, D. S.,** Skrtic, T. M., Deshler, D. D., Hock, M., & Craig-Hare, J. (2011, April). Employing design research to improve instructional coaching practices. Paper presented at the Annual Conference of the American Educational Research Association, New Orleans, LA.

Knight, D. S. (2011, March). Assessing the cost of instructional coaching. Paper presented at the Annual Conference of the Association for Education Finance and Policy, Seattle, WA.

TEACHING EXPERIENCE

EDPT 652: Multiple Regression, Teaching Assistant to Dr. Morgan Polikoff, University of Southern California, Spring 2013.

EDUC 792: Personnel Resource Allocation Strategies in a Time of Fiscal Stress, Teaching Assistant to Dr. Lawrence O. Picus, University of Southern California, Fall 2012.

PROFESSIONAL ORGANIZATIONS

American Educational Research Association
 Association for Education Finance and Policy
 Association for Public Policy and Management

AWARDS AND HONORS

Dean's Graduate Fellowship Award University of Southern California	2011-2015
Travel Grant Award Fiscal Issues, Policy, and Education Finance, Special Interest Group, AERA	2015
Poster Session Award Fall Research Conference, Association for Public Policy and Management	2014
Merit Scholarship University of Kansas	2009-2010
Ruth M. Anderson Memorial Scholarship University of Kansas	2009-2010

KATHLEEN MULVANEY HOYER

Research Analyst

Activate Research, Inc.
Washington, D.C.

Jan 2014 – Present

Provide leadership and assistance with research projects and business development activities

- Work directly with clients on analysis and production of education research
- Manage the publication process for the National Center for Education Statistics statistic in brief publications
- Assist client with development and execution research plan for the Regional Education Laboratory – Midwest region
- Represent Activate Research at research symposiums and capabilities briefings
- Coordinate work of junior staff

Research Assistant

American Institutes for Research
Washington, D.C.

July 2013– Dec 2013

Assisted in the development of Statistics in Briefs for the Data Development Program at the National Center for Education Statistics (NCES) that analyze data to address topics of policy and research interest in a brief format

- Drafted and revised text of briefs; replicated quantitative findings
- Contributed to the annual Data Development Program publication plan
- Assisted with planning data analyses for briefs in development

Instructor

Department of Teaching and Learning, Policy and Leadership
University of Maryland, College Park, MD

Aug 2011 – Dec 2013

Instructor of undergraduate course in education policy studies (EDPS 210: Historical and Philosophical Perspectives on Education)

- Developed syllabus for course, which included selection of course readings, assignments, and assessments
- Provided course instruction, facilitated class discussion, and evaluated all students' course assignments and assessments

Research Assistant

Department of Education Policy Studies
University of Maryland, College Park, MD

Aug 2010 – May 2011

Member of research team that studied educator incentive program in Prince George's County, MD

- Worked with principal investigators to develop research plan
- Assisted with interview protocol and survey development
- Collected and analyzed qualitative data
- Presented findings at national conferences
- Served as department IRB liaison to University

EDUCATION

Ph.D., Educational Leadership and Policy Studies May 2015
University of Maryland at College Park, College Park, MD

M.A., Educational Leadership and Policy Studies May 2011
University of Maryland at College Park, College Park, MD

B.A., Philosophy May 2008
University of Notre Dame, Notre Dame, IN

PUBLICATIONS

Cunningham, B. C., Hoyer, K. M., & Sparks, D. (2015). *Gender differences in science, technology, engineering, and mathematics (STEM) interest, credits earned, and NAEP performance in the 12th grade* (NCES 2015-075). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Malen, B., Rice, J. K., Matlach, L. K. B., Bowsher, A., Hoyer, K. M., & Hyde, L. (2015). Developing organizational capacity for implementing complex education reform initiatives: Insights from a multi-year study of a Teacher Incentive Fund (TIF) program. *Educational Administration Quarterly*, 51(1), 133-176.

Rice, J. K., Malen, B., Jackson, C., & Hoyer, K. M. (2015). Time to pay up: Analyzing the motivational potential of financial awards in a TIF program. *Educational Evaluation and Policy Analysis*, 37(1), 29-49.

Croninger, R. G. & Hoyer, K. M. (2013). *Equitable public education: "Getting lost in the shuffle."* In G. Sunderman (Ed.), *Charting reform: Achieving equity in a diverse nation* (pp. 55-76). Charlotte, NC: Information Age Publishing.

Malen, B., Rice, J. K., Jackson, C., Hoyer, K. M., Hyde, L., Bivona, L., Blaisdell, L., Bowsher, A., Cortes, K., Coverdale, B., de la Torre, A., Goldstein, M., Pimpawathin, A., & Sutter, J. (2011). *Implementation, payouts, and perceived effects: A formative analysis of Financial Incentive Rewards for Supervisors and Talents (FIRST)*. Prince George's County Public School System: Upper Marlboro, MD.

CONFERENCES

Exploratory analysis of gender gaps in STEM course-taking, performance, and affective disposition using data from the 2009 NAEP High School Transcript Study. American Educational

Research Association, Philadelphia, PA, April 3 – 7, 2014. (second author with Brittany C. Cunningham and Dinah Sparks)

Theory and practice: Federal policy and educator compensation reform. American Educational Research Association, San Francisco, CA, April 27 – May 1, 2013.

Making the hidden visible: Toward a framework to analyze costs associated with Teacher Incentive Fund (TIF) programs. Association for Education Finance and Policy, New Orleans, LA, March 14-16, 2013.

Equitable educational opportunity: Can we get there from here? American Educational Research Association, Vancouver, BC, April 13-17, 2012. (second author with Robert G. Croninger)

Persistent and pervasive implementation challenges associated with educator incentive programs: A case study of Financial Incentive Rewards for Supervisors and Teachers (FIRST) in Prince George's County, MD. Association for Education Finance and Policy, Boston, MA, March 15-17, 2012. (first author with Lauren Bivona, Betty Malen, and Jennifer King Rice)

Payouts in a TIF program: Distribution patterns, educator responses, and effects on program participation. Association for Education Finance and Policy, Boston, MA, March 15-17, 2012. (third author with Jennifer King Rice, Cara Jackson, and Betty Malen)

Developing leadership capacity for implementing complex initiatives: Insights from a multi-year study of a Teacher Incentive Fund (TIF) program. University Council for Educational Administration, Pittsburgh, PA, November 17-20, 2011. (fourth author with Betty Malen, Lauren Bivona, Amanda Bowsher, and Laura Hyde)

Time to pay up: Distribution patterns and perceived effects of financial awards in a Teacher Incentive Fund (TIF) program. National Center for Education Statistics STATS-DC Summer Data Conference, Bethesda, MD, July 25-29, 2011. (presenter with Jennifer King Rice, Cara Jackson, Betty Malen, and Laura Hyde)

Time to pay up: Distribution patterns and perceived effects of financial awards in a Teacher Incentive Fund (TIF) program. Association for Education Finance and Policy, Seattle, WA, March 24-26, 2011. (third author with Jennifer King Rice, Cara Jackson, Betty Malen, and Laura Hyde)

SERVICE

National Service

Advisory Committee on Student Financial Assistance

April 2010 – September 2013

University Service

Graduate Assistant Advisory Committee

December 2011 – November 2012