

MAINE STATE LEGISLATURE

The following document is provided by the
LAW AND LEGISLATIVE DIGITAL LIBRARY
at the Maine State Law and Legislative Reference Library
<http://legislature.maine.gov/lawlib>



Reproduced from electronic originals
(may include minor formatting differences from printed original)

Using Evidence-Based Criteria for Block Grant Funding of Collaborative Time for Educator Professional Development



Prepared by:

Janet C. Fairman, Ph.D.

A. James Artesani, Ed.D.

February 2016

Maine Education Policy Research Institute

University of Maine

Orono, Maine



Published by the Maine Education Policy Research Institute in the College of Education and Human Development, University of Maine.

MEPRI was established to conduct studies on Maine education policy and the Maine public education system for the Maine Legislature.

Statements and opinions by the authors do not necessarily reflect a position or policy of the Maine Education Policy Research Institute, nor any of its members, and no official endorsement by them should be inferred.

The University of Maine does not discriminate on the basis of race, color, religion, sex, sexual orientation, national origin or citizenship status, age, disability, or veteran's status and shall comply with Section 504, Title IX, and the A.D.A in employment, education, and in all other areas of the University. The University provides reasonable accommodations to qualified individuals with disabilities upon request.

This study was funded by the Maine State Legislature, and the University of Maine System.

Copyright © 2016

College of Education and Human Development
University of Maine, 5766 Shibles Hall, Orono, Maine 04469-5766 (207) 581-2493

A Member of the University of Maine System

Table of Contents

Executive Summary	1
Introduction	3
Methodology	4
Importance of Collaborative Learning for Educators	5
Evidence-Based Elements of Professional Development	6
Use of Evidence-Based PD Practices in Maine Schools	12
Strategies for Implementing Evidence-Based PD	13
PD to Support Proficiency-Based Education	15
Using Evidence-Based Criteria for Awarding Block Grant Funding	18
School-Based and Job-Embedded PD	19
Intensive, Long-Term, Sustained Learning	19
Collective and/ or Collaborative Learning	20
Focus on Student Learning and Curriculum Content	20
Active Learning	20
Alignment and Coherence	21
Funding Options and Considerations for Program Design	21
Eligibility	21
Targeting of Funds	22
Cost Basis and Size of Awards	22
Duration of Awards	23
Program Administration	23
Evaluation Measures to Report on Block Grant Activity and Impacts	24
Proposals for Program Funding	24
Annual Reports on Activity and Impact	24
Broader Considerations for Professional Development	25
Examples of Statewide Systems of PD and Support	27
Conclusion	29
Bibliography	31
Appendix A	37
Appendix B	40
Appendix C	41
Appendix D	42

Executive Summary

This report was prepared by the Maine Education Policy Research Institute (MEPRI) at the request of the Maine State Legislature to provide recommendations for the development of a block grant program of supplemental funding to school districts to support evidence-based professional development for educators and/ or leaders or instructional coaching support in schools and classrooms. The report provides guidance to inform decisions on pending legislation, LD 1394, “An Act to Implement the Recommendations of the Commission to Strengthen the Adequacy and Equity of Certain Cost Components of the School Funding Formula”.

The report builds on an earlier MEPRI report which reviewed the most rigorous empirical research literature on educator professional development, and uses the evidence-based findings to recommend criteria for a block grant funding program. Specifically, this report: 1) identifies evidence-based characteristics of effective professional development and criteria for evaluating block grants applications, 2) suggests possible funding priorities for awarding grants based on school district attributes, and 3) suggests evaluation measures that grant recipients could report annually as a requirement of continued funding.

In addition, the report provides findings from data collected through a focus group with 12 curriculum coordinators/ school districts from the Penobscot region around professional development supports needed to implement proficiency-based education. Finally, the authors discuss some broader considerations for policy and suggest that more work is needed to develop a coherent infrastructure for educator professional development in Maine and support for the use of evidence-based practices and effective implementation at the local level.

Findings from an earlier MEPRI review of the professional development literature were summarized in the EPS Commission Report (Millett & Hubbell, 2015). This review identified six elements or characteristics of effective professional development that link improvements in educator learning and practice with (objectively measured) improved student outcomes. The six evidence-based elements include:

- School-based and job-embedded
- Intensive, long-term, sustained learning
- Collective, collaborative learning
- Focus on student learning and curriculum content
- Active learning
- Alignment and coherence with local school improvement goals, part of a comprehensive system

There are many different modalities or strategies that schools or districts could use to deliver evidence-based professional development. The specific form or delivery mode may be less important than the content and quality of the professional development. When the six elements are combined together in professional development activity, the resulting impacts for teachers and students are stronger.

The results of a teacher survey on professional development conducted by MEPRI for the EPS Commission (Millett & Hubbell, 2015) indicated that a majority of responding teachers does not frequently experience these elements of effective practice in their professional development, and more work is needed to intentionally incorporate all elements into professional development activities in Maine schools and districts.

Findings from a recent focus group with 12 curriculum coordinators identified several areas of perceived need for professional development and support or guidance from the Maine Department of Education (MDOE), which included the following:

- Defining proficiency-based education and what qualifies as “proficient”, and communicating about PBE with teachers, parents, and stakeholders
- Guiding implementation of instructional change in grading practices, managing the use of new strategies in the classroom, and professional development on effective intervention strategies
- Measuring student progress and proficiency with assessments and evaluating data
- Supporting instructional change through increased use of professional coaching for all content areas

Recommendations for an application for funding through a block grant program, the evaluation criteria for selecting proposals for funding, and for annual reporting of activity and impacts suggest the explicit use of the six elements of evidence-based professional development. This approach would help to communicate the importance of incorporating all six elements into professional development activities and would also help the MDOE to identify the strongest proposals with higher potential for positive impacts.

A proposed application is provided in Appendix A, and a proposed annual reporting form is found in Appendix B. These guide school districts to describe how their proposed activity would incorporate all six elements of best practice. The nature of evaluation data to be reported would vary according to the focus, scope and participation in the professional development activity. School districts should collect and report both descriptive (qualitative) and numeric (quantitative) data measuring impacts for both educator learning and student learning outcomes. Examples of possible data sources are described in this report.

Other important decisions remaining for a potential block grant program include: eligibility, targeting, determining the cost basis and size of awards, and duration of grant awards. It was suggested in this report that groups of school districts could potentially apply for awards collectively, depending on the type of activity and participation proposed. This might be particularly useful for professional development of school or district leaders.

The authors recommend that a block grant funding program be part of a broader, more coherent framework for professional development in Maine that would provide more guidance and effective models to educators and school districts. The often overlooked components of effective implementation and evaluation are critical for obtaining the desired positive impacts of professional development. Examples of well-established statewide systems of educational improvement, professional development, implementation support, and data-based evaluation were shared. These included the states of Vermont, Colorado, Michigan, and Florida. As part of a coherent approach, the authors recommend a centralized clearinghouse for professional development research, resources, and models to be developed on the MDOE website. Such a resource would put important resources at the fingertips of policymakers, educators and leaders, and increase the utilization of evidence-based practices.

Introduction

This report was prepared for the Maine State Legislature as part of the work of the Maine Education Policy Research Institute (MEPRI) to review, analyze and make recommendations related to education policy initiatives. Legislative bill LD 1394, “An Act to Implement the Recommendations of the Commission to Strengthen the Adequacy and Equity of Certain Cost Components of the School Funding Formula”, followed from the report of the Essential Programs and Services (EPS) Commission in January 2015. The legislation, which remains pending at the time of writing, outlines a policy goal to provide supplemental funding to schools to support increased collaborative time for teachers and education leaders to engage in evidence-based professional development to implement proficiency-based learning. To that end, the Joint Standing Committee on Education and Cultural Affairs requested that MEPRI prepare a report that outlines recommendations for block grant funding of professional development for teachers and school or district leaders.

This report builds on earlier MEPRI work which reviewed the literature on professional development and provides guidance and recommendations for block grant funding of professional development. Specifically, this report: 1) identifies evidence-based characteristics of effective professional development and criteria for evaluating block grants applications, 2) suggests possible funding priorities for awarding grants based on school district attributes, and 3) suggests evaluation measures that grant recipients could report annually as a requirement of continued funding. In addition, the report provides findings from data collected through a focus group with curriculum coordinators around professional development supports needed to implement proficiency-based education. Finally, the authors discuss some broader considerations for policy and suggest that more work is needed to develop a coherent infrastructure for educator

professional development in Maine and support for the use of evidence-based practices and effective implementation at the local level.

Methodology

This report draws on national literature reviews of effective practices in professional development and of high-performing countries conducted by MEPRI in spring and fall 2014 (Mackenzie, 2014; Millett and Hubbell, 2015), and statewide surveys of school districts and teachers conducted by MEPRI in fall 2014 (Millett and Hubbell, 2015). Additional research literature is also cited in this report.

In addition to utilizing the available research literature, the authors conducted a focus group discussion with 12 curriculum coordinators from 12 school districts from the Penobscot County and surrounding region on January 11, 2016 to obtain their perceptions of high priority needs in their districts for professional development to support proficiency-based education. The participants all held responsibility for coordinating curriculum in their school districts, though some held multiple administrative roles. Two participants were also superintendents and one was a principal. The school districts represented in this sample consisted primarily of smaller rural districts and one urban cluster district (according to U.S. Census designators), with district enrollments ranging from about 500 to 3,800 students. The focus group was conducted during a regularly scheduled meeting.

Finally, a discussion of the broader context of professional development in Maine outlines some of the key points of a proposal developed by the authors. Fairman and Artesani provided a briefing to the Standing Committee on Education and Cultural Affairs in March 2015, describing the need for developing a statewide infrastructure for a more coherent framework for professional development that provides guidance and support to educators and school systems in

selecting, implementing and evaluating impacts of evidence-based practices. Some examples of statewide systems for professional development and support are highlighted in this report.

Importance of Collaborative Learning for Educators

Research studies and reviews of the literature have documented the importance of collaborative time for educators to deepen their professional knowledge and skills (Bryk, Camburn, & Louis, 1999; Goddard, Goddard, & Tschannen-Moran, 2007, Ingvarson, Meiers, & Beavis, 2005). When collaborative time is used to focus on student work and data to inform instructional decisions, classroom teaching and student learning can both benefit (Carlson, Borman, & Robinson, 2011). More generally, there is a strong connection between well-prepared teachers and improved student learning outcomes (Blank & de las Alas, 2009; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007).

Countries that perform at the highest levels on international student assessments typically also have higher levels of professional development time that is focused on content and pedagogy and more hours per week in collaborative time for educators than in the US, while the U.S. lags behind these countries in its investment in learning time for educators and student learning outcomes (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Darling-Hammond, Wei, & Andree, 2010; Mackenzie, 2014). Last year MEPRI prepared a table presenting data comparing practices across high performing countries and teacher collaborative time for the EPS Commission Report (Millett & Hubbell, 2015), which is reproduced in Appendix C of this report.

A recent survey of Maine teachers conducted by MEPRI (Millett and Hubbell, 2015), found that a majority of responding teachers (61%) had 1-3 hours per week for common professional development time, which is low compared with high performing countries and the

US average (see Appendix C). Further, 18% of that common time was spent on receiving administrative information and 21% was spent on work related to proficiency-based learning (Millett & Hubbell, 2015). The findings for educators in Maine are not very different than elsewhere in the U.S. where teachers generally report little time for collaborative professional development and learning time that is highly structured by their school or district and often not directly focused on core issues of teaching and learning within content areas (Darling-Hammond et al, 2009). An independent review of Maine’s funding formula for PK-12 education recommended increased time for professional training as well as collaborative work, and increased use of instructional coaching supports (Picus et al., 2013).

Evidence-Based Elements of Professional Development

In fall 2014, MEPRI conducted a review of empirical research on professional development for the EPS Commission (Millett and Hubbell, 2015). That review filtered the available literature by using the highest standards of methodological rigor, by including only studies that met the What Works Clearinghouse criteria or, at a minimum, utilized experimental or quasi-experimental research designs. Further, the review only considered research that connected professional development with objective measures of student learning outcomes, rather than subjective measures such as perceptions of outcomes. These strict criteria reduced the available literature substantially, but did uncover solid evidence to draw some general conclusions about certain aspects of effective professional development practices. While the literature reviewed did not allow for conclusions about the efficacy of particular modalities or strategies of professional development, the review did find evidence that the inclusion of certain elements or characteristics of professional development activity are related to both improved educator learning and student learning outcomes, particularly when these elements are combined.

In the section that follows, we elaborate more on these six characteristics of effective professional development and use this evidence as a basis for selection criteria for block grant funding.

The collaborative nature of educator learning is but one characteristic of effective professional development that has the potential to improve student learning outcomes. Based on the most rigorous studies that link teacher professional development with student learning outcomes, there are six broad elements of effective professional development (Crow, 2011; Darling-Hammond et al, 2009). These include the following:

- School-based and job-embedded
- Intensive, long-term, sustained learning
- Collective, collaborative learning
- Focus on student learning and curriculum content
- Active learning
- Alignment and coherence with local school improvement goals, part of a comprehensive system

Each of these elements is described in more depth in the following section. This elaboration is intended to provide more clarity to distinguish these elements from more traditional or prevalent professional development practices.

School-Based and Job-Embedded PD

Many educators benefit from attending regional, state, or national education conferences, becoming active in professional organizations or online sites for sharing knowledge about teaching practice, and pursuing advanced studies and independent learning driven by their own interests and questions around teaching and student learning. Yet these experiences may be infrequent and broad in their focus, and it may not be clear how to translate new learning into classroom practice. Further, there is often no real follow up after attending a conference or workshop, and the learning is passive rather than active.

School-based professional development is professional learning that takes place in or near the school workplace and designed around the specific learning needs of educators and students in that school. Job-embedded professional development allows for regularly scheduled learning and collaborative time within the daily or weekly work schedule (compensated time) of educators. By bringing professional development opportunities to educators and making explicit time for learning, there is greater potential to involve all educators rather than a few. New structures, scheduling, or staff assignments may also be needed to create or increase job-embedded learning and collaboration time. Professional development that is school-based and job embedded has been linked with improved teacher learning and student learning outcomes (e.g., Arkansas Bureau of Legislative Research, 2012; Blank & de la Alas, 2009; Wei, Darling-Hammond & Adamson, 2010).

Intensive, Long-term, Sustained Learning

Much of the professional development that educators typically receive is characterized by brief, one shot workshops, which offer no follow up for continued learning. However, that format does not consider how people learn, which is developmental and incremental. Educators who are learning about new ways to teach or assess students, or deepening their knowledge of concepts within a content area, need a longer time-span to incorporate new learning, to experiment and apply new ideas, reflect and evaluate outcomes, and then revise their thinking and practice (Hord & Roussin, 2013; Ingvarson, Meiers, Beavis, 2005; Senge et al., 2000; Thornton, Shepperson, & Canavero, 2007). Educators also need opportunities to discuss with others what they are learning through this process and to ask for feedback and additional resources. Real change in practice depends on deep learning, and learning takes time.

Professional development that is sustained over a longer time-frame is an important element for improving teaching practice and student outcomes (e.g., Arkansas Bureau of Legislative Research, 2012; Blank & de la Alas, 2009; Wei et al, 2010). Some education experts have reviewed the research literature and suggest a minimum of 50 hours or more annually for professional learning time (Darling-Hammond et al, 2009), while others assert that closer to 100-200 hours annually is needed to obtain significant instructional change and improved student learning outcomes (Picus et al., 2013).

Professional development time could include both initial, formal training as well as on-going opportunities for learning that stretch over the course of the school year and possibly the summer. The important point is that there is a plan in place for sustained learning over a longer duration to allow for time to learn and implement new instructional strategies or practices, reflect, provide peer feedback, and refine practice.

Collective and/or Collaborative Learning

As described above, much of educator professional development occurs in either brief, passive workshop training sessions or is pursued individually by teachers engaged in advanced degree programs or independent reading and study. Professional development that involves all educators in the school can create the momentum and support needed to adopt new practices. It goes beyond the small pockets of excellence found in individual classrooms. Professional development that incorporates the element of collective and/ or collaborative effort has been linked with improved teacher learning and student learning outcomes (e.g., Arkansas Bureau of Legislative Research, 2012; Blank & de la Alas, 2009; Wei et al 2010).

Collective learning is work in which all members of an organization engage together toward a common goal. School improvement work that involves professional learning and effort

centered on specific school-wide change goals is an example of collective learning. Collective work also has the benefit of communicating the importance or centrality of the work and goals for the school, and must be supported through time, resources, and expertise to guide and periodically evaluate the results of the effort.

Collaborative learning is work that actively engages people in a common task and may occur with two people, small groups, or larger groups. The main point is the active engagement on tasks central to teaching and learning. It is through formal and informal collaboration and relationships among colleagues that educators confront new ideas, learn from each other, and begin to shift in both their thinking and practice (Fairman & Mackenzie, 2014, Mangin & Stoelinga, 2008).

Collaborative learning often requires a foundation of trust among educators (Tschannen-Moran, 2004), but this effort can also contribute to the development of trust and collegiality in schools (Fairman & Mackenzie, 2014). Trust is especially important for some forms of professional development to be successful, such as professional learning communities, peer coaching, and performance feedback (Bryk et al., 1999; Daniels & Daniels, 2006; Harris & Jones, 2010; Stoll, Bolam, McMahon, Wallace & Thomas, 2006).

Focus on Student Learning and Curriculum Content

Much of the professional development provided to educators often focuses on topics that are general or not directly focused on the central processes of teaching and learning and curriculum content knowledge. While these types of training and information may be useful for other purposes or compliance, they do not have strong potential to impact student learning outcomes. Professional development that focuses educators on curriculum content and student learning has been linked with improved student learning outcomes (e.g., Arkansas Bureau of

Legislative Research, 2012; Blank & de la Alas, 2009; Wei et al, 2010). Surveys of teachers across the U.S. have revealed that a majority of educators give low ratings to much of the professional development they receive within their school or district. Teachers rated content-related professional development as the most useful, although they noted they seldom receive this type of learning experience and their top priority is to learn more about the content they teach (Darling-Hammond et al, 2009).

Active Learning

Evidence has shown that people learn best when the learning experience incorporates more active engagement with concepts or materials rather than passive reception (Grant, Porter, Desimone, Birman, & Yoon, 2001; Loucks-Horsley, Stiles, Mundry, Love, & Hewson, 2010; Wilson & Berne, 1999). However, this concept has not yet informed the design of much of the professional development educators and leaders experience. Designing learning opportunities that intentionally incorporate active learning and collaborative interactions has greater potential to improve educator learning and practice as well as student learning outcomes (e.g., Arkansas Bureau of Legislative Research, 2012; Blank & de la Alas, 2009; Wei et al, 2010). Active learning means that people are engaged in some task for a purpose.

Alignment and Coherence of PD

Educators often participate in a virtual smorgasbord of professional development experiences that are not well connected to the curriculum and improvement goals of their school. The literature provides evidence that better alignment of professional development with curriculum and school improvement efforts has greater potential to improve teaching practice and student learning outcomes, although this element surfaced in fewer studies reviewed by MEPRI (Desimone 2009; Jaquith, Mindich, Wei, & Darling-Hammond, 2010). Making

professional development a coherent piece of a more comprehensive local improvement process is the challenge for many schools in the U.S. where a more fragmented and incoherent approach has prevailed. The concept of coherence supports the need to combine all six elements of effective professional development together—collective and active engagement in on-going, school-based and job-embedded work that is focused on curriculum content and the core processes of teaching and learning.

Use of Evidence-Based PD Practices in Maine Schools

In a survey of Maine teachers conducted by MEPRI for the EPS Commission, teachers were asked to rate how often their professional development experiences reflected each of the six characteristics of effective professional development found in the evidence-based literature (Millett & Hubbell, 2015). Predominantly, close to half of the responding teachers indicated that only about 25% or less of their professional development incorporates four of the characteristics (job embedded PD that connects learning content to instructional strategies, active learning, long-term or sustained learning, and a focus on specific content areas). These are all areas where more work is needed to improve the efficacy of professional development.

The results were a bit more promising for the remaining two characteristics. Over a fifth of responding Maine teachers indicated that 26-50% of their professional development involved collective or collaborative learning, and another 35% of the teachers said 25% or less of their professional development reflected this characteristic. Higher percentages of Maine teachers indicated that their professional development was connected with local goals and initiatives. For this element, 26% of the responding teachers said it was present in 25% or less of their professional development, 29% said it was present in 26-50% of their professional development, and 23% indicated this element was present in 51-75% of their professional development. Only

14% of the teachers indicated this element was reflected in 76%-100% of their professional development. Clearly there is room for improvement in striving for 100% of professional development to be aligned with and part of a coherent system of local improvement effort. Ideally, professional development should incorporate all six elements to increase the potential for positive impacts on teacher learning, practice, and student outcomes.

Strategies for Implementing Evidence-Based PD

There are many different modalities or strategies that schools or districts could use to deliver evidence-based professional development. The strongest research evidence so far indicates that professional development is more likely to result in improved educator learning and practice as well as student learning outcomes when the activity incorporates the six elements described earlier in this report. The current research does not support general conclusions about the efficacy of a particular form or way of delivering professional development. While there is some research on the implementation and impacts of coaching, professional learning communities (PLCs), or mentoring for example, the research designs are less robust and the findings are more conflicting and inconclusive. Complicating the effort to research these strategies is the fact that these practices exist in so many different forms and are implemented with a high degree of variation, and often lack of fidelity to the intended model. The six elements or characteristics of effective professional development may be more important than the form or strategy used. Certainly more research is needed to provide better knowledge and guidance on what modalities or strategies for professional development have better potential to improve educator knowledge and practice as well as student outcomes.

We wish to mention here a few strategies that schools or districts often utilize, that could potentially include all six elements of evidence-based practice. We cite some research that

provides indications of promising practices, for very specific interventions that were studied. We cannot make any inferences from these studies that the findings could be generalized more broadly. A full review of the literature on these strategies is beyond the scope of this report.

Instructional Coaching and Performance Feedback

Coaching involves a content area or student behavior specialist in providing support directly to classroom teachers. Coaches support teacher learning and improved practice through a variety of coaching strategies—direct modeling of instructional strategies in the classroom, formal or informal coaching and feedback, and provision of resources to support teacher learning and student learning.

A growing body of research across educational disciplines, such as literacy, math, and social/behavioral growth, support the promising contribution of coaching as part of the continuum of effective professional development practices (Knight, 2009; Kretlow, & Bartholomew, 2010; Neuman, & Cunningham, 2009). Prominent areas of coaching research and practice include, literacy (Cantrell & Hushes, 2008; Powell, Diamond, Burchinal, & Koehler, 2010), social behavior, (Duchaine, Jolivette, & Fredrick, 2011; Reinke, Lewis-Palmer, Merrell, 2008), and math (Rudd, Lambert, Satterwhite, & Smith, 2009).

Performance feedback is a well-defined and researched method of professional development that is often used with coaching. Empirical research has been conducted across a wide variety of fields, including education (Daniels & Daniels, 2006; Rienke, Herman, & Sprick, 2011). Fallon, Collier-Meek, Maggin, Sanetti, and Johnson (2015) completed a systematic review of performance feedback based on the rigorous standards established by What Works Clearinghouse guidelines. Results of the review identified performance feedback as the first

implementation support strategy to undergo this critical evaluation with strong and moderate evidence sufficient to establish it as an evidence-based practice.

Professional Learning Communities

Professional Learning Communities (PLCs) provide regular time for educators or leaders to engage in collective learning or study in a sustained period of time. Various modalities for this might include PLCs, critical friends' groups, professional collaboratives, practice study groups, content or grade-level teams, or other types of on-going small group learning with structured activity focused on teaching and learning. For example, educators might examine student work, student data, teacher lessons, or discuss readings on instructional practice or specific concepts within a content area. Research indicates that well developed PLCs that begin with a focus on evidence-based practice can have a positive impact on educational practices and student achievement (Bolam, McMahon, Stoll, Thomas, & Wallace 2005; Louis & Marks, 1998; Vescio, Ross, Adams, 2008).

PD to Support Proficiency-Based Education

MEPRI is currently gathering data through school-based interviews and focus groups for a case study report that will be presented later in March 2016. That report will provide more in-depth data on the current needs of schools and educators to implement proficiency-based education. For this report, we obtained more limited data on PD needs by conducting a focus group with curriculum coordinators during a regularly scheduled meeting in January 2016. We asked what their top priorities were for professional development to implement proficiency-based education, and also gathered some suggestions related to annual reporting of data for block grant funding of professional development. Overall, we heard several consistent themes across the 12 participants / school districts in the focus group. Some of these themes were reflected in

the MEPRI report to the EPS Commission (Millett & Hubbell, 2015) and previous research on Maine's implementation of the proficiency-based diploma system (Stump & Silvernail, 2014). Other themes were unique to this focus group. We present the common themes from this focus group in this next section.

Defining Proficiency-Based Education

The first theme we heard centered on the need to understand what proficiency-based education is and how to communicate about it with others. Curriculum coordinators said they wanted the Maine Department of Education (MDOE) to clearly define what proficiency-based education is, and what constitutes “proficient” performance. They noted that while there is a fairly good understanding of what standards-based education means among the professionals in their district, there is less consistent understanding of what proficiency-based education means. Thus, they feel a need for more professional development to define and explain this concept, preferably led by MDOE, so that these definitions may align with the MDOE expectations. A related theme was the evident need among this focus group to have more resources, models, or training that would help teachers and school leaders explain proficiency-based education to parents and the broader school community. Due to the limited time available, the focus group discussion did not explore educators’ awareness or use of materials that are available on the MDOE website or related webinars. Several focus group participants noted how the proficiency-based approach is different from what many parents experienced in their own schooling and parents need help to understand this shift in education.

Guiding Implementation of Instructional Change

Another theme centered on specific kinds of pedagogical knowledge these curriculum coordinators believed educators needed to implement proficiency-based education. One area of

perceived need is grading practices. Some curriculum coordinators noted that teachers still keep traditional grading practices and find it hard to shift to a different mindset and approach. One participant said, “It’s a mindshift for teachers.” Another participant explained, “An enormous amount of time needed to discuss things. We need time for focused discussion to shift teachers’ ideas.” Overall, participants felt that professional development that offers practical tools for implementing proficiency-based grading practices would be helpful.

Another area where professional development is needed are strategies to manage the implementation of specific proficiency-based approaches in the classroom instruction, such as customized learning (Schwahn & McGarvey, 2012), student-centered learning (Nellie Mae Education Foundation, 2015), or standards-based grading (Marzano, 2011). Focus group members indicated that when teachers are expected to support individual student learning needs and goals in a more personalized approach, teachers feel it becomes tricky to manage the use of class time and differentiated instruction as well as the additional teacher time necessary to develop curriculum and materials. One participant explained, “Proficiency-based demands a lot of teachers—to attend to all students’ needs and manage it all! They have to manage the new classroom practices they’re adopting, just becoming comfortable with them.”

A further area of need that was identified is to help teachers learn strategies for intervention when their initial instructional approach does not work. Focus group members said teachers needed training and understanding of how long to wait before trying a different approach. Related to this was the expressed need to support teacher learning around how to provide formative feedback to students.

Measuring Student Progress and Proficiency with Data

In addition to supporting these kinds of instructional knowledge, curriculum coordinators indicated that teachers and leaders need more professional development to better understand how to measure student learning and growth in a proficiency-based diploma system. Beyond the core content areas, curriculum coordinators also discussed the need to help teachers and schools understand how to measure student learning and proficiency on the Guiding Principles of Maine's Learning Results. Focus group members shared that many educators in their districts were currently engaged in identifying measures for student learning outcomes (SLOs) both to meet the mandate for proficiency-based diploma systems and the mandate for systems to evaluate teachers and principals. Therefore, participants indicated that further guidance from the MDOE and more time at the district level would be important for supporting work to develop valid local assessments and knowing how to use data to evaluate student progress and teacher effectiveness.

Supporting Instructional Change through Professional Coaching

Another theme our focus group participants raised was the use of instructional coaches. Curriculum coordinators voiced an interest in better training and certification programs for content specialists or instructional professional coaches for all core content areas (in addition to the current offering for literacy coaches), and increased funding for coaches in schools. Focus group participants believed instructional coaching allows for teachers to obtain high quality instructional support to learn effective practices for their content areas and offers support to help students meet proficiency standards for all content areas.

Using Evidence-Based Criteria for Awarding Block Grant Funding

A block grant program to fund collaborative professional development for educators and leaders would involve a statewide “Request for Proposals” (RFP) that provides a clear and

simple format for schools or school districts to describe their proposed use of the funding. An online template and collection for proposals is recommended. Proposals should be no more than five pages in length, with budget material appended. Some general information about the proposed professional development should be required, such as: the type or format of the activity, who will deliver or oversee the activity, where the activity will take place, which teachers or leaders will be involved in the activity, how often and over what duration of time the activity will take place, a budget with estimated costs for implementation, and a plan for how the activity would be evaluated and how it would be sustained beyond the block grant funding (See Appendix A).

The state could consider allowing groups of schools or districts to apply for a block grant for a collaborative professional development effort for educators or leaders. Given the small size of most school districts in Maine, it makes more sense for schools and districts to engage together regionally in high quality professional development.

Proposals should specify how the proposed professional development activity would incorporate each of the six characteristics of effective professional development described earlier in this report. This information would help to determine the overall strength of the proposal. Professional development activities that meet all six criteria have a higher probability of having a strong, positive impact on student learning outcomes. Proposals would include specific information as suggested below.

School-Based and Job-Embedded PD

Proposals should: 1) describe where the professional development activity will take place, 2) describe how the content of the professional development directly relates to the daily work of teachers (teaching practice) or leaders (instructional leadership), and 3) describe to what

extent the professional development activity will be incorporated (embedded) into the daily professional work (compensated time) of teachers or leaders.

Intensive, Long-Term, Sustained Learning

While the format and duration of proposed professional activities will vary, it will be important for proposals to clearly describe how the activity would support on-going educator learning, and have opportunity for follow up and continued collaborative learning. Proposals should: 1) identify the number of hours and frequency of the professional development activity, 2) identify the overall duration in time for the activity (over a period of months or the school year or calendar year), 3) describe how the activity would be structured to allow for on-going and intensive collaborative work.

Collective and/ or Collaborative Learning

This section of the application would include both descriptive (narrative) information as well as quantitative (numeric) information. Proposals should: 1) indicate how many (number and percentage) and which teachers or leaders would be involved in the proposed professional development activity, 2) describe how the professional development is collective (all teachers in the school) or involves a smaller subset of teachers in the school, and 3) describe how the proposed activity would be structured to allow for collaborative learning for teachers or leaders.

Focus on Student Learning and Curriculum Content

Proposals should: 1) describe how the content of the professional development directly focuses on curriculum content, improved teaching and student learning. The proposed professional development activity might focus on one content area or multiple content areas. 2) identify which content area(s) will be included and specific concepts and skills within the content area(s) that will be targeted. (The professional development should focus on curriculum

content and teaching/ learning processes to support that knowledge, rather than general topics of teaching.)

Active Learning

Applications should: 1) describe how the proposed activity would be structured to allow teachers or leaders to engage in active learning (as opposed to passive learning), and 2) describe the kinds of collaborative work and goals in which educators would engage. Repeatedly, educators call for more hands-on learning, and this kind of active learning has produced more dramatic impacts for improved classroom practice and student learning.

Alignment and Coherence

Proposals should: 1) describe how the proposed professional development activity is aligned with local school improvement goals and 2) how the activity is part of a comprehensive local system where school improvement goals, curricula, professional development, and educator evaluation all align around a focus on student learning outcome goals.

Funding Options and Considerations for Program Design

Last year, MEPRI outlined for the EPS Commission various options or models for a block grant program to provide supplemental funding for support professional development, and compared these alternative approaches (Millett & Hubbell, 2015). These options were presented in a table and are reproduced for this report in Appendix D. The most critical elements to be determined include: eligibility, targeting of funds, determining the cost basis and size of the awards, and duration of grant awards. Considerations around each of these elements are discussed below.

Eligibility

A block grant program could fund all districts, districts that meet basic criteria, or only districts that submit the most competitive proposals. A concern with funding all districts would be that funding would be diverted to less needy districts that may already have the capacity to support effective professional development and also have stronger student outcomes. Another concern would be that funds would go to districts that may not have a well-developed plan for professional development and the potential for impact would be weaker. On the other hand, making the process too competitive might unfairly disadvantage small districts that have fewer personnel to help put together a strong grant proposal. Striking a balance of requiring applicants to demonstrate they have a plan that meets some basic criteria related to evidence-based practice for professional development would increase the potential for effective use of the funding and stronger impacts. As mentioned earlier, groups of schools or districts might join together to apply for a block grant to support collaborative efforts in professional development for educators or leaders that incorporate all six elements of evidence-based professional development.

Targeting of Funds

Another question to be decided is whether or not the supplemental funding would be targeted or non-targeted. Targeting the program toward districts with fewer fiscal and personnel resources and/ or lower levels of student performance would ensure the funding reached districts and schools with the highest demonstrated need. Weighted scoring could be used to give priority to funding higher need districts, or a threshold measure could be used to restrict the program to districts that fall within the specified parameters. Some measures that might be considered for determining high need districts would include: percentage of students eligible for free/ reduced school lunch, deviation from the statewide average on state assessments for reading and math,

size of achievement gaps between groups of students, and ratio of content specialists or coaches to teachers currently available for the targeted grade level/ content area.

Cost Basis and Size of Awards

Given the disparity in resources available to districts and the variation in the type and scope of professional development activity they might propose, it seems clear that not all awards would be for the same amount. Applicants would include a proposed budget in their proposal. Some types of activity might have higher costs because they require salary support or other program costs. Costs may also vary depending on the number of participants and duration of the proposed activity.

In addition to considering the actual cost of the proposed activity, the program might consider specifying a maximum per capita amount as a basis for determining funding levels. This would be consistent with the approach used in the EPS funding formula for general education funds.

Duration of Awards

Grant awards could be for one year or up to three years, depending on the nature of the proposed activity, with options to re-apply for a subsequent grant award programs should the legislature approve additional funding.

Program Administration

Depending on the anticipated number of expected proposals and awards, additional staffing for the MDOE may be needed to review the proposals, receive the annual reports for funded projects, and compile and review the data on impacts provided in the annual reports. Proposals targeting particular content areas would be reviewed by content area specialists in the department. Proposals targeting student behavior would be reviewed by specialists in special

education. Faculty from the University of Maine System with expertise in content areas or special education could collaborate with MDOE staff and specialists to assist with proposal review and selection.

Evaluation Measures to Report on Block Grant Activity and Impacts

Proposals for Program Funding

In addition to other kinds of information outlined earlier in this report, school districts that apply for supplemental funding for professional development would need to include the target outcomes or benchmarks aligned with the goals of statewide education improvement and proficiency-based learning specifically. The proposal should also include a plan for evaluating the impact of the proposed activity and would describe the type of data the district proposes to collect. The evaluation plan should include both descriptive (qualitative) and numeric (quantitative) data, and data should be directly linked to the targeted population of teachers, leaders, and students, and the intended student outcomes (see Appendix A).

Annual Reports on Activity and Impact

School districts that receive funding should be required to submit a report to the Maine Department of Education each year at the end of the third quarter (or after the administration of post-test student assessments). Written reports should be a minimum of five pages in length and may have appendices that include data collected. The report should describe the activity that took place, the number and percentage of teachers or leaders who participated, the grade levels and content areas involved, and the number of students impacted. In addition, the report should present both qualitative and quantitative data that provide evidence of the impacts resulting from the professional development activity, and assess progress toward target outcomes or benchmarks. The curriculum coordinators we talked to in a focus group session suggested that

the state use a reporting format that is similar to what is already required for reporting on progress and collected through an online survey they can review in its entirety before responding to questions. The reporting form should not be cumbersome or long. This will make compliance easier for local school systems.

Qualitative data might include comments from teachers or leaders describing the impact of the professional development on their knowledge and/ or teaching practice or instructional leadership practice, and/ or perceptions of impacts for students. Intended outcomes for students might include both academic learning outcomes within specific content areas as well as/ or behavioral outcomes for students. Qualitative data might be collected through open-ended questions on a survey, focus groups, or individual interviews.

Quantitative data describing impacts of the activity would include: 1) the number and percentage of teachers or leaders who participated, 2) the number of students impacted, 3) results of student outcome data collected. Pre and post assessments of student learning outcomes for the targeted grade levels and content areas could be provided. For projects targeting student behavior improvement, data demonstrating the change in number disciplinary actions over time could be cited. Additional data evaluating teacher or leader impacts might also be collected through teacher or leader surveys using scaled items. Data on student outcomes might also be collected through student surveys using scaled items. The type of data collected will vary according to the purpose, focus, and scope of the proposed professional development activity (see Appendix B).

Broader Considerations for Professional Development

The proposal for supplemental funding to support evidence-based professional development, increased time for collaborative learning, and increased content coaching signals a potentially significant and positive step toward increasing the fiscal resources and human

capacity to improve teaching practice. Development of educator knowledge with supports to implement and refine new instructional strategies are both key to reforming practice and ultimately improving student learning outcomes.

The block grant funding program would provide some limited guidance to school districts on criteria for designing and selecting professional development initiatives, by defining six important elements of evidence-based professional development. School districts' level of readiness to incorporate all six elements into professional development activities is not yet established. Nor do we know the level of coherence and alignment across various spheres of districts' policy and improvement effort (e.g., curricula, assessment, professional development, evaluation, and improvement goals). Beyond the six elements, more research and guidance are needed to inform decisions about the selection of professional development strategies or models.

A growing body of research on effective implementation suggests the need for more attention on this aspect of education reform. Effective implementation occurs in stages, and requires strong buy-in from all levels within the school or school system. Support and guidance during implementation is critical for helping to ensure fidelity and to obtain the desired changes. Support and expertise may also be needed to assist schools and districts in identifying and interpreting data to evaluate the success and impacts of the initiative. A continuous feedback loop of using data to improve implementation is recommended. Few teachers, school or district leaders have training or expertise in program implementation and evaluation either in their preservice or inservice experience.

Considering these important questions, it is clear that there is an important role for the state to play in terms of guiding and supporting the desired educational reform changes in Maine. Providing more fiscal resources to schools and districts to implement evidence-based practices is

one part of the equation. What is missing is a broader and coherent statewide framework to guide and support local efforts to implement reform. Given the small size and limited capacity in many of Maine's rural districts, it is even more critical for a system of regional and state-level guidance and support to be developed. In a report to the Education and Cultural Affairs Committee last year, the authors of this report proposed a statewide collaborative between the MDOE, school districts, and higher education faculty to develop the capacity to support teacher and leader learning and effective implementation of reform initiatives.

One potential place to start would be to develop a centralized "clearinghouse" on the MDOE website for all professional development-related resources. Having a central place where policymakers, educators and leaders could locate research on evidence-based practices, a listing of current trainings, effective implementation models, resources for evaluating the impacts of professional development, and other resources would reduce the need to search multiple professional organization websites for information. Being able to search for resources by content area, student behavior/ classroom management, and grade span categories would also help users find information and professional development opportunities more quickly.

Examples of Statewide Systems of PD and Support

This report has identified implementation of evidence-based educational practices in Maine's schools as a primary outcome of state-funded professional development initiatives. Evidence-based practice applies to specific methods and strategies used in school settings, but also speaks to the approaches employed to ensure that such practices are indeed effectively implemented in school settings. Professional development, ongoing support for implementation, and data-based evaluation (Fixsen, Blasé, Metz, & Van Dyke, 2013, Fixsen, Blasé, Naoom, & Wallace, 2009) are the key components to such school improvement initiatives. A sample of

well-established statewide systems of school improvement is provided in this section. It is worth noting that each of these state models centers around collaboration between the state department of education and the state's university system.

Professional Learning in Vermont

Vermont has developed a number of statewide initiatives to promote effective and equitable professional development across their rural northeast state. The Vermont Higher Education Collaborative for Education Workforce Development (VT-HEC) was established as a collaborative effort involving the Vermont Agency of Education, the Vermont State Colleges, the University of Vermont, and Vermont school districts. For more information, view the website: <http://education.vermont.gov/professional-learning#professional-learning>

In addition, Vermont established a Professional Learning Network (PLN) in 2013. This statewide system seeks to provide a “coordinated, cohesive and consistent approach to professional learning.” A specific example of a professional development initiative with a statewide reach is PBIS Vermont, which can be viewed at: <http://pbisvermont.org/about/contact>

Colorado Multi-Tiered Systems of Support

Colorado provides statewide professional development and support through the Office of Learning Supports. This initiative is designed to provide professional development and technical assistance in the areas of PBIS and RTI. More information can be found at:

<http://www.cde.state.co.us/pbis>

Michigan's Multi-Tiered System of Supports (MTSS)

Michigan's Integrated Behavior and Learning Support Initiative (MiLBSi) is a specific program within the state structure of professional development. MiLBSi provides a statewide system that addresses implementation, evaluation, and ongoing support for evidence-based

academic and behavioral educational approaches. Additional information is available at:

<http://miblsi.cenmi.org/Home.aspx>

http://www.michigan.gov/mde/0,4615,7-140-28753_65803-322534--,00.html

Florida's Multi-Tiered System of Supports

Like Michigan, Florida also provides integrated professional development and support for academics and behavior through one comprehensive system that consists of three statewide projects: the Student Support Services Project (<http://www.florida-rti.org>), the problem Solving /Response to Intervention Project (<http://www.floridarti.usf.edu>), and the Florida's Positive Behavior Support Project (<http://flpbs.fmhi.usf.edu>).

Conclusion

This report built on an earlier review of the research literature by MEPRI that identified six elements of evidence-based professional development. In several studies conducted with the most rigorous methods, professional development activity that incorporated these elements had both positive improvement in educator learning and practice as well as student learning outcomes as indicated through objective measures. Outcomes were most impressive when these six elements were combined together.

These six elements were used as a framework to develop criteria for developing a block grant proposal program and to evaluate the quality of proposals. Suggested questions for proposals and for annual reporting were developed and included in this report. Other important decisions remaining for a potential block grant program include: eligibility, targeting, determining the cost basis and size of awards, and duration of grant awards. It was suggested in this report that groups of school districts could potentially apply for awards collectively,

depending on the type of activity and participation proposed. This might be particularly useful for professional development of school or district leaders.

In data collected by MEPRI through a recent teacher survey, educators' responses indicated that more effort is needed to incorporate all six elements of evidence-based practice into professional development, particularly the four areas of 1) school-based/ job-embedded, 2) active learning, 3) long-term/ sustained learning, and 4) focus on curriculum content. A recent focus group with curriculum coordinators provided some evidence of a need to increase professional development, coaching, implementation, and data evaluation supports to help educators make the transition to proficiency-based education and improve student learning outcomes.

The authors recommend that a block grant funding program be part of a broader, more coherent framework for professional development in Maine that would provide more guidance and effective models to educators and school districts. The often overlooked components of effective implementation and evaluation are critical for obtaining the desired positive impacts of professional development. Examples of well-established statewide systems of educational improvement, professional development, implementation support, and data-based evaluation were shared. These included the states of Vermont, Colorado, Michigan, and Florida. As part of a coherent approach, the authors recommend a centralized clearinghouse for professional development research, resources, and models to be developed on the MDOE website. Such a resource would put important resources at the fingertips of policymakers, educators and leaders, and increase the utilization of evidence-based practices.

Bibliography

- Arkansas Bureau of Legislative Research. (2012). *Overview of Research on Teacher Professional Development and Effectiveness Evaluation*. Little Rock, AR: Bureau of Legislative Research. Retrieved from: <http://www.arkleg.state.ar.us/assembly/2011/Meeting%20Attachments/410/I10425/Overview%20of%20Research%20on%20Teacher%20Professional%20Development%20Effectiveness%20Evaluation.pdf>
- Blank, R., & de las Alas, N. (June 2009). *Effects of teacher professional development on gains in student achievement: How a meta-analysis provides scientific evidence useful to education leaders*. Washington, DC: Council of Chief State School Officers (CCSSO). Retrieved from: http://www.ccsso.org/Resources/Publications/Effects_of_Teacher_Professional_Development_Gains_in_Student_Achievement_How_Meta_Analysis_Provides_Evidence_Useful_to_Education_Leaders_.html
- Bolan, R., McMahon, A., Stoll, L., Thomas, S., & Wallace, M. (2005). *Creating and sustaining professional learning communities*. Research Report number 637. London, England: General Teaching Council for England, Department for Education and Skills.
- Bryk, A., Camburn, E., & Louis, K. (1999). Professional community in Chicago elementary schools: Facilitating factors and organizational consequences. *Educational Administration Quarterly*, 35, 751-781.
- Cantrell, S., & Hughes, H. (2008). Teacher efficacy and content literacy implementation: An exploration of the effects of extended professional development with coaching. *Journal of Literacy Research*, 40(1), 95-127.
- Carlson, D., Borman, G., & Robinson, M. (2011). A multistate district-level cluster randomized trial of the impact of data-driven reform on reading and mathematics achievement. *Educational Evaluation and Policy Analysis*, 33(3), 378-398.
- Crow, T. (Ed.) (2011). Standards for professional learning. *Journal of Staff Development*, 32 (4), Special Issue.
- Daniels, A.C., & Daniels J.E. (2006). *Performance management: Changing behavior that drives organizational effectiveness* (4th ed.). Atlanta, GA: Performance Management Publications.
- Darling-Hammond, L., Wei, R., Andree, A., Richardson, N., & Orphanos, S. (Feb. 2009). *Professional learning in the learning profession: A status report on teacher development in the United States and Abroad*. Dallas, TX: National Staff Development Council (NSDC). Retrieved from: <https://edpolicy.stanford.edu/publications/pubs/187>

- Darling-Hammond, L., Wei, R., Andree, A. (2010). *How high-achieving countries develop great teachers*. A Research Brief. Stanford, CA: Standard Center for Opportunity Policy in Education. Retrieved from: <https://edpolicy.stanford.edu/publications/pubs/291>
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199.
- Duchaine, E., Jolivet, K., & Fredrick, L. (2011). The effect of teacher coaching with performance feedback on behavior-specific praise in inclusion classrooms. *Education and Treatment of Children*, 34(2), 209-227.
- Fairman, J., & Mackenzie, S. (2014). How teacher leaders influence others and understand their leadership. *International Journal of Leadership in Education*, 18(1), 61-87.
- Fallon, L., Collier-Meek, M., Maggin, D., Sanetti, L., & Johnson, A. (2015). Is performance feedback for educators an evidence-based practice? A systematic review and evaluation based on single-case research. *Exceptional Children*, 81(2), 227-246.
- Fixsen, D., Blasé, K., Metz, A., & Van Dyke, M. (2013). Statewide implementation of evidence-based programs. *Exceptional Children*, 79(2), 213-230.
- Fixsen, D., Blasé, K., Naom, S., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, 19(5), 531-540.
- Goddard, Y., Goddard, R., & Tschannen-Moran, M. (2007). Theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. *Teachers College Record*, 109 (4), 877-896.
- Grant, M., Porter, A., Desimone, L., Birman, B., & Yoon, K. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-945.
- Harris, A., & Jones, M. (2010). Professional learning communities and system improvement. *Improving schools*. 13(2), 172-181.
- Hord, S., & Roussin, J. (2013). *Implementing change through learning: Concerns-based concepts, tools, and strategies for guiding change*. Thousand Oaks, CA: Corwin.
- Ingvarson, L., Meiers, M., & Beavis, A. (2005). Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes & Efficacy. *Education Policy Analysis Archives*, 13(10). Retrieved from: http://research.acer.edu.au/professional_dev/1
- Jaquith, A., Mindich, D., Wei, R., & Darling-Hammond, L. (2010). *Teacher Professional Learning in the United States: Case Studies of State Policies and Strategies*. Technical Report. Oxford, OH: Learning Forward.

- Knight, J. (2009). *Coaching: Approaches & perspectives*. Thousand Oaks, CA: Corwin.
- Kretlow, A., & Bartholomew, C. (2010). Using coaching to improve the fidelity of evidence-based practices: A review of studies. *Teacher Education and Special Education*, 33(4), 279-299.
- Loucks-Horsley, S., Stiles, K., Mundry, S., Love, N., & Hewson, P. (2010). *Designing professional development for teachers of science and mathematics* (3rd ed.), Thousand Oaks, CA: Corwin.
- Louis, K.S., & Marks, H.M. (1998). Does professional learning community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education*, 106(4), 532-575.
- Mackenzie, S. (March 2014). *What can educators and policymakers learn from high-performing countries on international assessments?* A MEPRI Report to the Maine State Legislature. Orono, ME: University of Maine.
- Maine State Legislature. (2015). Proposed bill, LD 1394 *An act to implement the recommendations of the commission to strengthen the adequacy and equity of certain cost components of the school funding formula*. Augusta, ME.
- Mangin, M., & Stoelinga, S. (Eds.). (2008). *Effective teacher leadership: Using research to inform and reform*. New York, NY: Teachers College Press.
- Marzano, R. (2011). *Formative assessment and standards-based grading*. Bloomington, IN: Solution Tree Press.
- Matsumura, L., Garnier, H., Correnti, R., Junker, B., DiPrima Bikel, D. (2008). Investigating the effectiveness of a comprehensive literacy coaching program in schools with high teacher mobility. *The Elementary School Journal*, 11(1), 35-62
- Millett, R., & Hubbell, B. (Jan. 2015). *Report of the commission to study the adequacy and equity of certain cost components of the school funding formula*. Report to the Joint Standing Committee on Education and Cultural Affairs, Maine State Legislature. Augusta, ME: Maine State Legislature. Retrieved from: <http://www.maine.gov/doe/EPS-Commission-LD1850>
- Nellie Mae Education Foundation. (2015). *Centered on results: Assessing the impact of student-centered learning*. Quincy, MA: author.
- Neuman S., & Cunningham, L. (2009). The impact of professional development and coaching on early language and literacy instructional practices. *American Educational Research Journal*, 46(2), 532-566.

- Picus, L., Odden, A., Goetz, M., Griffith, M., Glenn, W., Hirshberg, D., & Aportela, A. (2013). *An independent review of Maine's Essential Programs and Services Funding Act: Part I*. North Hollywood, CA: Lawrence O. Picus and Associates.
- Powell, D., Diamond, K., Burchinal, M., & Koehler, M. (2010). Effects of an early literacy professional development intervention on head start teachers and children, *Journal of Educational Psychology*, *10*(2), 299-312.
- Reinke, W., Herman, K., & Sprick, R. (2011). *Motivational interviewing for effective classroom management*. New York: The Guilford Press.
- Reinke, W., Lewis-Palmer, T., & Merrell, K. (2008). The Classroom Check-up: A classwide teacher consultation model for increasing praise and decreasing disruptive behavior. *School Psychology Review*, *37*(3), 315-332.
- Rudd, L., Lambertm M., Satterwhite, M., & Smith, C. (2009). Professional Development coaching = Enhanced teaching: Increasing usage of math mediated language in preschool classrooms. *Early Childhood Education Journal*, *37*(1), 63-69.
- Schwahn, C., & McGarvey, B. (2012). *Inevitable: Mass customized learning: Learning in the age of empowerment*. Author published.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2000). *Schools that learn: A fifth discipline fieldbook for educators, parents, and everyone who cares about education*. New York, Doubleday.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change*, *7*(4), 221-258.
- Stump, E., & Silvernail, D. (2014). Implementation of a proficiency-based diploma system: Early experiences in Maine. A MEPRI report. Gorham, ME: Center for Education Policy, Applied Research, and Evaluation.
- Tschannen-Moran, M. (2004). *Trust matters: Leadership for successful schools*. San Francisco, CA: Jossey-Bass.
- Thornton, B., Shepperson, T., & Canavero, S. (2007). A systems approach to school improvement program evaluation and organizing learning. *Education*, *128*(1), 48-55.
- Wei, R., Darling-Hammond, L., & Adamson, F. (2010). *Professional development in the United States: Trends and challenges*. Dallas, TX: National Staff Development Council (NSDC). Retrieved from: <https://edpolicy.stanford.edu/publications/pubs/89>
- Wilson, S.M., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional development. *Review of Research in Education*, *24*, 173-209.

Yoon, K., Duncan, T., Lee, S., Scarloss, B., & Shapley, K. (Oct. 2007). *Reviewing the evidence on how teacher professional development affects student achievement* (Issues & Answers Report, REL 2007 No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Retrieved from:
<http://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2007033>

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*, 80-91.

Note: Additional sources of literature considered for this report are found in the bibliography of research on professional development in the EPS Commission Report (Millett and Hubbell, 2015).

Author Information

Janet Fairman is Associate Research Professor in the College of Education and Human Development, University of Maine, and co-Director of MEPRI. Dr. Fairman has expertise in the areas of education policy analysis, program evaluation, and qualitative research methodology. Her research includes a focus on STEM education, innovative and reform practices in education, and teacher leadership.

A. James Artesani is Associate Professor of Special Education and Associate Dean of Graduate Education, Research, and Outreach in the College of Education and Human Development, University of Maine. Dr. Artesani has extensive experience and expertise assisting educators in creating a school environment and culture that is prepared to implement evidence-based practices, within a schoolwide system that is structured to enhance the likelihood that the practices will be implemented with fidelity. In such settings, data-based decision making serves as the backbone of frequent evaluation.

Appendix A

Sample RFP for Supplemental PD Block Grant Program

Purpose of the Program:

The purpose of this professional development block grant program is to provide supplemental funds to school districts implementing statewide mandated education reforms. [To be determined: minimum and maximum size of awards, length of awards, and if districts with certain characteristics will be targeted by the program.]

Allowable Use of Grant Funds: Funds may be used to (1) conduct professional development activities for educators (regular education or special education teachers), school or district leaders, or (2) support an instructional coaching program.

Review of Proposals: [To be determined: the proposal review timeline, eligibility and selection criteria, and any priorities for awarding of funding.]

Reporting Requirements: School districts that are successful in their application must agree to provide annual third quarterly reports to the MDOE in order to continue their funding. These reports will be collected online by the MDOE and will be a minimum of 5 pages in length with data/ evidence appended.

Proposal Content: School districts should provide a written proposal no longer than 5 pages, that provides information about the proposed activity as follows:

[Note: It is recommended that the MDOE utilize a standard template or form to collect this information systematically through an online software or survey program. This will facilitate collection, review, and reporting by the state and provide more clarity for districts considering if they will apply for the funding.]

Description of Proposed Activity:

1. Identify the type of proposed activity or program to be implemented
2. Identify the targeted teachers or leaders for the PD activity (grade levels, content areas, numbers and percentages of educators to participate in the activity)
3. Number of students who would be impacted (grade levels, content areas, numbers and percentages of students potentially impacted)
4. Time and duration of the activity—how often, how many minutes or hours per day or week, over what duration of time in weeks, months, and total number of hours/ days
5. Who will deliver, facilitate, or coordinate the activity
6. Provide at least one citation of published empirical research providing evidence of effectiveness for the proposed activity

7. Describe how the proposed activity incorporates all six characteristics of effective professional development, as demonstrated in the research literature:

a. *School-based and job embedded*

- i) describe where the professional development activity will take place
- ii) describe how the content of the professional development directly relates to the daily work of teachers (teaching practice) or leaders (instructional leadership)
- iii) describe to what extent the professional development activity will be incorporated (embedded) into the daily professional work (compensated time) of teachers or leaders

b. *Intensive, long-term, sustained learning for educators or leaders*

- i) indicate the number of hours and frequency of the proposed activity
- ii) indicate the overall duration in time for the activity (over a period of months, school year, or calendar year)
- iii) describe how the activity would be structured to allow for intensive and on-going collaborative learning and work

c. *Collective and/or collaborative learning for educators or leaders*

- i) indicate how many (number and percentage) and which teachers or leaders would be involved in the proposed professional development activity
- ii) describe how the proposed activity is collective (all teachers in the school), or involves a smaller subset of teachers in the school
- iii) describe how the proposed activity would be structured to allow for collaborative learning among teachers or leaders

d. *Focus on student learning and curriculum content*

- i) describe how the content of the professional development directly focuses on curriculum content, improved teaching and student learning. (Note that the proposed activity or multiple content areas.)
- ii) identify which content area(s) will be included and specific concepts and skills within the content area(s) that will be targeted

e. *Active learning*

- i) describe how the proposed activity would be structured to allow teachers or leaders to engage in active learning (as opposed to passive learning)
- ii) describe the kinds of collaborative work and goals in which educators would engage

f. *Alignment and coherence with a local system of school improvement*

- i) describe how the proposed professional development activity is aligned with local school improvement goals
- ii) describe how the activity is part of a comprehensive local system where school improvement goals, curricula, professional development, and educator evaluation all align around a focus on student learning outcome goals

8. Describe how the activity will be evaluated —specify target outcomes and benchmarks aligned with statewide goals, type of data to be collected

9. Describe how the activity would be sustained after the end of the grant

Appended Materials: Budget and explanation of estimated costs for the activity

Appendix B

Sample Reporting on Activity and Impacts

Reporting Requirements: School districts that receive supplemental block grant funding for professional development or instructional content coaching must provide annual third quarterly reports to the MDOE in order to continue their funding. These reports will be collected online by the MDOE and will be a minimum of 5 pages in length with data/ evidence appended.

[Note: It is recommended that the MDOE utilize a standard template or form to collect this information systematically through an online software or survey program. This will facilitate collection, review, and reporting by the state and provide more clarity for districts reporting on their professional development activity and impacts. Using a format that is similar to what districts already use to report on educational outcomes to the state is recommended.]

Description of Professional Development Activity:

1. Describe the activity/ activities or programs implemented using the supplemental block grant funding for PD, and the nature of the work conducted/ completed
2. Identify the targeted teachers or leaders for the PD activity who participated in this activity (identify the grade levels, content areas, numbers and percentages of educators or leaders who participated)
3. Number of students who were impacted (identify the grade levels, content areas, numbers and percentages of students impacted by the activity)
4. Time and duration of the activity—Describe how often, how many minutes or hours per day or week, over what duration of time in weeks, months, and total number of hours/ days the activity took place
5. Describe who delivered, facilitated, or coordinated the activity
6. Describe broadly how the activity/ program has impacted teachers' or leaders' professional development (knowledge and skills) to date, and drawing on evidence you have collected to support your conclusions
7. Describe broadly how the activity/ program has impacted your students' learning and outcomes to date, drawing on evidence you have collected to support your conclusions
8. Evaluation data—Briefly summarize the evidence from qualitative and quantitative data your district has collected to evaluate the impacts of the PD block grant funding

Appended Materials: Concise summaries of evaluation data/ results, data tables, or assessment outcomes may be appended to this report

Appendix C

Characteristics of Teacher Professional Development - Structure & Use of Time on International Teacher Characteristics

Comparing the United States to nations that are top-performers on the PISA, most top-performing nations' teachers spend less time supervising extracurricular activities, but other time varies among nations. This table was prepared by MEPRI from an OECD survey of teacher time, and is reproduced here from the EPS Commission Report (Millett & Hubbell, 2015).

	PISA 2012 combined rank	Total working hours per week	Percent of working hours spent teaching	Collaborative Work with Colleagues (hrs per wk)	Assessing Student Work (hrs per wk)	Meeting with Students (hrs per wk)	Administrative or Managerial Work (hrs per wk)	Communicating with Parents/Families (hrs per wk)	Extracurricular Roles (hrs per wk)
Singapore	2	47.6	31%	3.6	8.7	2.6	7.2	1.6	3.4
Korea	4	37.0	35%	3.2	3.9	4.1	8.2	2.1	2.7
Japan	5	53.9	31%	3.9	4.6	2.7	8.5	1.3	7.7
Finland	7	31.6	57%	1.9	3.1	1.0	1.6	1.2	0.6
Estonia	8	36.1	48%	1.9	4.3	2.1	3.1	1.3	1.9
Canada	11	48.2	46%	3.0	5.5	2.7	5.4	1.7	3.6
Poland	12	36.8	44%	2.2	4.6	2.1	3.5	1.3	2.4
Netherlands	13	35.6	42%	3.1	4.2	2.1	3.5	1.3	1.3
Australia	18	42.7	37%	3.5	5.1	2.3	7.3	1.3	2.3
Belgium	19	37.0	48%	2.1	4.5	1.3	3.3	0.7	1.3
UK	21	45.9	39%	3.3	6.1	1.7	6.2	1.6	2.2
Czech Rep	23	39.4	42%	2.2	4.5	2.2	3.7	0.9	1.3
France	24	36.5	46%	1.9	5.6	1.2	2.0	1.0	1.0
Denmark	26	40.0	44%	3.3	3.5	1.5	3.0	1.8	0.9
Norway	27	38.3	38%	3.1	5.2	2.1	4.1	1.4	0.8
Latvia	28	36.1	44%	2.3	4.6	3.2	3.4	1.5	2.1
United States	29	44.8	44%	3.0	4.9	2.4	4.9	1.6	3.6

Appendix D

Model Options for Supplemental Professional Development Block Grant Program

This chart provides model options for grant funding provided directly to SAUs for state mandated education initiatives (i.e. outside of the EPS Formula and the General Purpose Aid distribution method). The chart was prepared by MEPRI and is reproduced from the EPS Commission Report (Millett & Hubbell, 2015).

Options for Increasing Funding to Provide Teachers with Time for Job-Embedded Professional Learning

	All schools	All schools that meet eligibility criteria	Competitive districts
School Eligibility for Funds	<ul style="list-style-type: none"> • All school districts that operate schools. 	<ul style="list-style-type: none"> • Any school districts that operate schools and that meet basic criteria would receive funds. 	<ul style="list-style-type: none"> • Only school districts that operate schools and submit the best proposals for PD programs would receive funds.
Amount of Funds Provided to Each School	<p>Options:</p> <ul style="list-style-type: none"> • Per capita amount (by teacher or student). • Per capita amount with a base amount to ensure that small schools have sufficient funds for a program. • Other? 	<p>Options:</p> <ul style="list-style-type: none"> • Per capita amount. • Per capita amount with a base minimum to ensure that small schools have sufficient funds for a program. • Total cost of a specific list of project elements (i.e., not all PD that a school might want to provide would be funded). • A portion of the cost of proposed change, with local contribution. 	<p>Options:</p> <ul style="list-style-type: none"> • Per capita amount. • The total cost of the proposed project. • The cost of project minus local contribution. • Other?
Duration of Funding	<p>Options:</p> <ul style="list-style-type: none"> • Ongoing, added to funding formula as categorical state fund. • A specific time period. • Other? 	<p>Options:</p> <ul style="list-style-type: none"> • A specific time period. • Specific time period with renewal possibilities. • As long as school maintains eligibility. • Other? 	<p>Options:</p> <ul style="list-style-type: none"> • 1-3 years • X years, renewable based on progress. • Other?

	All schools	All schools that meet eligibility criteria	Competitive districts
Evaluation	Options: <ul style="list-style-type: none"> • No evaluation. • Annual reporting of use of funds. • Other? 	Options: <ul style="list-style-type: none"> • No evaluation. • Evaluation as part of district required program approval. • Annual reporting of use of funds. • Other? 	Options: <ul style="list-style-type: none"> • No evaluation. • Evaluation as part of district required program approval. • Annual reporting of use of funds. • Other?
Other Factors, Considerations	<ul style="list-style-type: none"> • Could be varying amounts of funds depending on financial need. • May or may not need to define PD and eligible costs, depending on options chosen. 	<ul style="list-style-type: none"> • What would be the school eligibility criteria? • What would be the project or cost eligibility criteria? Need to define PD. 	<ul style="list-style-type: none"> • What would be the basis for ranking/scoring – financial need, academically struggling schools, highest-quality PD, most cost-effective, etc.? • What projects and costs would be eligible? Need to define PD.
Pros and Cons	<p>Pros:</p> <ul style="list-style-type: none"> • Easiest to administer. • Gives greatest flexibility to local units. <p>Cons:</p> <ul style="list-style-type: none"> • Not necessarily targeted to highest-need schools. • No requirement for quality programming. 	<p>Pros:</p> <ul style="list-style-type: none"> • All schools with PD programs that meet criteria would benefit. • May be easier to implement than a competitive program. <p>Cons:</p> <ul style="list-style-type: none"> • Higher total cost than competitive. • Funds are not necessarily targeted to highest-need schools. 	<p>Pros:</p> <ul style="list-style-type: none"> • Can be targeted to high-need schools by factoring that into competitive scoring. • Targets the funds to high-quality programs. • Total cost can be controlled by determining how many applications to approve. <p>Cons:</p> <ul style="list-style-type: none"> • Only a portion of schools receive funding. • Not all schools have the capacity to write competitive grant applications. • May be the most time-intensive process for schools and DOE to implement.