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Implementation of a Proficiency-Based Diploma System in Maine: Early Experiences in Maine

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Executive Summary

Following the passage of No Child Left Behind, there has been increased attention among researchers, policymakers, and practitioners on the emergence and implementation of standards-based education. Existing literature documents both the promise of standards-based education and the various potential obstacles to achieving success that teachers, administrators, and policymakers confront. The present study examines the early implementation process of proficiency-based education standards in the state of Maine, per Maine law *LD 1422: An Act to Prepare Maine People for the Future Economy.* Under LD 1422, all schools are expected to establish a proficiency-based diploma system by 2018. Using a two-phase, qualitative approach, our findings suggest that benefits include improved student engagement, greater attention to development of robust interventions systems and more deliberate collective and collaborative professional work. In addition, practitioners and leaders indicated the need for continued work and resources to address challenges of implementation, including common working definitions, public support, time for professional collaboration, development of effective learning management system and addressing the needs of students at various developmental stages.

Introduction

Following the passage of No Child Left Behind, state-level policies throughout the United States have established varying high school graduation requirements for exiting seniors. One such approach is the adoption of a proficiency-based diploma system by which students must demonstrate mastery of particular standards in order to earn their diploma. A number of states--including Maine, Vermont, New Hampshire, Oregon, and Colorado--have adopted a standards-based diploma system to structure graduation requirements. This approach to educational reform has received extensive traction; however, there is limited empirical research that examines the processes of implementation that serve to increase student and school success.

The present report summarizes the findings from a two-phase study of the benefits, challenges and costs of Maine's public schools and school districts engaged in implementing a proficiency-based diploma system. In May 2012, the Maine State Legislature passed Maine law *LD 1422: An Act to Prepare Maine People for the Future Economy*. Under *LD 1422*, all public Maine school districts are expected to implement a proficiency-based diploma system by 2018. This represents a sea change in the way education is provided for Maine children, since the legislation has potential implications for traditional educational practices. Thus, this study of schools and school districts sought to build an understanding of the process of both the dissemination and implementation of the law across the state. Starting in 2012, the study examined the preliminary development, costs and impacts of standards-based school programs in Maine. In 2013-2014, the study focused on school districts that were in the process of systemically implementing *LD 1422*. Although the findings of this study center on the state of Maine, they have relevance for other states and districts considering the adoption of proficiency-based or standards-based education systems. We

highlight some of the potential barriers and facilitators to implementation as well as offer suggestions of particular school-level and system/district-level variables that are critical to successful implementation. Specifically, our findings suggest that effective learning management systems, strong instructional practices, embedded time for professional collaboration and robust intervention systems are yet to be fully developed in most of the case study schools in Maine. However, these key components of a proficiency-based diploma system appear to have the potential to improve student engagement, increase more transparent and collective monitoring of student progress as well as highlight the benefits of collaborative professional work.

CONTEXT

Efforts to establish a standards-based education system have a long developmental history. This approach to education goes by many names, including standards-based education, proficiency-based progress, learner-centered education, competency-based accountability, and outcome-based education. As described in a RAND report,

> Standards-based accountability (SBA) has been a primary driver of education policy in the United States for several decades. Although definitions of SBA vary, it typically includes standards that indicate what students are expected to know and be able to do, measures of student attainment of the standards, targets for performance on those measures, and a set of consequences for schools or educations based on performance. (Hamilton, Stecher & Yuan, 2012, p.149)

Spady (1994) suggests that the roots of outcome-based education can be traced back over 500 years ago to the craft guilds of the Middle Ages in which apprenticeships provided training in a chosen field with demonstration of mastery being required for recognition of expertise. Recent research surrounding the effectiveness of this approach has spanned an array of educational domains, notably legal and medical credentialing (Williams, 1992), aviation training (Walter, 2000), technical training programs (Blank, 1982), as well as public PK-12 education.

In the present report, we focus on the realm of public education and use the terms “proficiency-based" and "standards-based" primarily as it is the language used in the state legislation of our case studies. Although, it is important to note that proficiency-based education has been called by various names, implemented in many educational settings and takes on many forms. However, these diverse approaches are bound by shared philosophies and goals that are evident across

many contexts. Specifically, as Spady (1994) concludes, it is "a system based on outcomes gives top priority to ends, purposes, learning, accomplishments, and results" (p. 14). Hargrove, Walker and Huber (2004) indicate that a key goal of standards-based education is to align assessments with common standards. Competency-based education goals include similar components: "Students will progress upon mastery with open enrollment and open exit. States eliminate barriers that limit student progression" (Sturgis, Rath, Weisstein & Patrick, 2010, p. 7). Maine's legislation requiring the development of a proficiency-based diploma system mandates that public school districts will:

> Transition to standards-based educational system. In order to facilitate the transformation of the public education system to one in which standards are used to guide curriculum and instruction and in which student advancement and graduation are based on student demonstration of proficiency in meeting educational standards. (An Act to Prepare Maine People for the Future Economy, 2012)

Therefore, despite variations in language, the common goals and philosophies are rooted in giving more attention to individual student progress.

In the United States, the reform movement to incorporate standards-based approaches is evident in the case method of teaching law in the 1920s (Llewellyn, 1930); however, it was first seen among general education settings in the 1960s (Malan, 2000). In the 1980s, following the 1983 publication of *A Nation at Risk*, standards-based education gained increased traction in its present form. Released by the National Commission of Excellence in Education under the Reagan administration, the report warned of the stunted progress of American public schools and the threat to the United States' position as a leader amidst the rise of globalization and concluded with an extensive list of recommendations, including the adoption of standards. Despite the fact that further analyses indicated that there were flaws in the data and analytical approaches used in *A Nation at*

Risk (Bracey, 2003), the report sparked a wave of education reform across the United States. In the next two decades, several states, including California, Kentucky, Maryland, Massachusetts, North Carolina and Texas began integrating standards-based education methods. By 1994, *Goals 2000: Educate America Act* (PL 103-227) emerged as a federally funded program to assist states in their development of academic standards and was the impetus for a nationwide trend to engage in this process (Armour-Garb, 2007).

Efforts to elevate the minimum standards of student and educator performance were outlined in literature and policies nationwide. Simultaneously, there was a call for greater accountability that "led to policy debates about how to raise expectations for both student and teacher performance, and emphasized the need to monitor student achievement in a systematic way (Wixson, Dutro, & Athan, 2003)" (Hamilton, Stecher & Yuan, 2012, p. 150). During this time, the No Child Left Behind (NCLB) Act of 2001 was passed. Using the 1964 *Elementary and Secondary Education Act* as a precursor and receiving bipartisan support, NCLB requires annual standardized testing and Adequate Yearly Progress demonstrated by schools receiving Title I funding. Despite recommended revisions, extensive critiques and the allotment of waivers to numerous states in the past decade, the law remains a pillar of standards-based education in the United States (Darling-Hammond, 2006). In the decade since NCLB was signed into law, many school districts around the United States have continued to struggle with the implementation and execution of standards-based education (Sunderman, Kim, & Orfield, 2005). Researchers have documented the challenge of translating external standards with the intended fidelity within practice (Hill, 2001), the complexity of full-scale adoption (Henry, Rose & Campbell, 2012) or development of common standards (O'Day & Smith, 1993) and incorporating the necessary reforms for students to meet the expected standards (Wong, 2011). As districts responded to the demands of NCLB, it became evident that

successful implementation of a standards-based system required coordinated efforts across multiple stakeholders, including policymakers, district administrators, teachers, and parents, to link the various goals, attributes and measures.

Simultaneous with the implementation of NCLB, policymakers and practitioners alike highlighted the importance of post-secondary preparation as a core goal of public school education. This push for higher education and economic preparation stemmed, in part, from the economic recession in the United States at the turn of the 21st century. Indeed, only 23% of high school seniors scored at the proficient level or higher on the mathematics section of the 2005 National Assessment of Educational Progress (NAEP) assessment, and only 35% of high school seniors scored at the proficient level or higher in reading (Grigg, Donahue, & Dion, 2007). In 2010, Secretary of Education, Arne Duncan cited "unacceptable" test results as an indicator of a population of students "poorly prepared to compete in today's knowledge economy" (U.S. Department of Education, 2010). For example, in Maine, "39% of 2010 high school graduates met [or exceeded] proficiency standards [on the Maine High School Assessment] in both mathematics and reading during their junior year" (Silvernail, Walker, & Batista, 2011, p.1). Proficiency and college readiness have been strongly linked in mathematics (Conley, 2007; Silvernail et al, 2014) as well as reading (Conley, 2007). In turn, earning a post-secondary degree has become increasingly important in securing career opportunities (U.S. Department of Labor, 2011). Nationwide, many states are engaged in efforts to improve student proficiency levels, signifying ongoing issues with student academic preparedness in the wake of standards intensive reforms.

In Maine, *LD 1422: An Act To Prepare Maine People for the Future Economy* was signed into law May 2012 and became part of the Elementary and Secondary Education Statute. (A copy of the complete statute appears in Appendix A.) The cornerstone of the law

was the requirement that Maine schools transition to a standards-based educational system by 2018, when high school graduation for all students enrolled in a public school system would be based on demonstrating proficiency in meeting standards. Additionally, this new system was required to provide students with "multiple pathways" to acquire and demonstrate proficiency. In order to assist in this conversion to the new education system, it was mandated that school districts would receive transition grants and technical assistance from the Maine Department of Education.

Proficiency-based education has been seen by education leaders, business leaders and policymakers to hold promise for the preparation of America's youth to better meet the expectations of college and career. Therefore, many states have made recent efforts to implement standards-based high school graduation requirements, often with extensive support from business organizations and corporate leaders. In fact, the Common Core State Standards (CCSS) Initiative was introduced in 2009 by Achieve--a reform organization made up of governors and business leaders--after collaboration with the "Education Trust, Thomas B. Fordham Institute and National Alliance of Business to launch the American Diploma Project (ADP) to identify the 'must-have' knowledge and skills most demanded by higher education and employers" (Achieve, 2014). Corporate partners highlight the importance of preparing youth for the changing economy, emphasizing the skills of information and communication technologies (Clarke & Hermens, 2001). This collective work by businesses, policymakers and educational leaders has maintained a college and career readiness focus on the standards proposed for state and local adoption.

Getting students to this point of college and career preparedness requires a multi-year process of preparatory experiences, from early education through high school graduation and beyond. This support for higher standards and improved outcomes has prompted the

development and adoption of policy that either allows for or mandates PK-12 public school districts to incorporate components of standards-based, competency-based or proficiency-based education into local policies and practices in thirty-nine states in the U.S. (Education Commission of the States, 2011). Standards-based educational reform can also be seen outside the United State in countries such as South Africa (Carter, 2012), Canada (Anderson & Shattuck, 2012), and New Zealand (Crooks, 2002).

However, local contexts have contributed to a wide range of how these proficiency-based policies have been interpreted, selected, and implemented. Often, external funding sources supported this work and, in turn, expected fidelity of implementation to the specified reform model. For example, in Maine, many case study school districts in the beginning stages of implementing a proficiency-based diploma system had connected their work to larger school improvement measures based on various approaches (Expeditionary Learning, 2014; Nellie Mae Education Foundation, 2014; Re-Inventing Schools Coalition, 2014; Schwahn & McGarvey, 2011). Some case study schools had embraced the Re-Inventing Schools Coalition's approach to standards-based education as a "comprehensive school reform framework set up as a performance-based system rather than a Carnegie unit or time-based system" (Re-Inventing Schools Coalition, 2014). While the vision and goals of the case study schools reflected the reform's focus to move away from traditional units and systems, the observations and conclusions from this study indicated that most local practices and policies had neither abandoned Carnegie units nor time-based progression through traditional grade levels yet. Instead, many schools were developing hybrid systems in which student progress and reporting was a combination of performance-based or proficiency-based methods and traditional methods. These types of local interpretations of state policies or the proposed practices of reform organizations have been seen in various contexts throughout the

history of educational reform movements (Fan, 2012; Honig, 2006; Odden, 1991).

The integrated, overlapping, complex nature of implementing proficiency-based education within a school system can be part of what makes the reform successful in the individual context; however, it makes parceling out the variables that constitute these practices "both complex and uncertain" (O'Day & Smith, 1991, p.252). In various contexts, approaches defined by participants as "proficiency-based" include very different practices. Even the defining elements of a "proficiency-based" practice could be different depending upon the source. Although literature focusing on proficiency-based education is available, inconsistent operational definitions may be one cause for the dearth of rigorous, empirical studies analyzing these practices.

However, a small selection of studies thoroughly researching standards-based education does exist. One such study compares student growth percentiles on standardized tests in a sample of schools in Massachusetts with standards-based reporting systems to schools with traditional grading practices and concludes that the two approaches to assessment yielded null results (Craig, 2012). Another study conducting a "quasi-experimental estimate of pilot interventions' effects on student performance" within schools implementing proficiency-based approaches found that "programs have approached proficiency-based education quite differently" (Lewis et al., 2013, p. 3-4). In addition, this study's statistical comparison of a proficiency-based intervention programs to non-intervention programs revealed that the intervention group demonstrated lower academic performance; and another wider statistical comparison in the same study revealed that the only statistically significant difference in outcomes indicated higher attendance rates in the schools with the proficiency-based intervention programs (Lewis et al., 2014). Two empirical studies examining the relationship between the quality and consistency of state standards and

student performance on standardized tests suggested non-significant results or no correlation (Goodman, 2012; Whitehurst, 2009). Two other studies looking at the perceptions of teachers and administrators in schools implementing standards-based approaches suggested that principals support the practice more strongly than teachers (Peter D. Hart Research Associates, 1999). The literature suggests various levels of perceived success based upon the stage of implementation: teachers who had more experience with a proficiency-based system were more likely to cite it as a positive instructional tool than teachers in earlier phases of implementation (D'Agostino, Welsh & Corson, 2007; Peter D. Hart Research Associates, 1999).

Cumulatively, the present research ties proficiency-based education with students' outcomes but leaves several questions unanswered surrounding causality and the school-based practices that best contribute to students' success. We root the present study in the extant literature but have selected a research approach that we believe target current gaps in research. Our qualitative approach, using school and school district case studies as well as other individual interviews, does not address the question of how proficiency-based approaches affect quantified student achievement (such as standardized test results). Instead, we seek to understand the organizational elements that help to successfully implement a proficiency-based diploma system in a manner that can improve the learning experiences and increase opportunity for all students.

METHODOLOGY

In order to understand the implementation process of instituting a proficiency-based diploma system, the present study undertook a two-phase approach. The Maine Education Policy Research Institute (MEPRI) was commissioned by the Joint Standing Committee on Education and Cultural Affairs of the Maine Legislature to conduct a study to provide information so as to better understand the steps taken and progress made by Maine public schools and school districts transitioning to the new system. In the first phase of this study, we examined the preliminary development, costs and impacts of standards-based school programs developed to implement the Maine law, *LD 1422: An Act to Prepare Maine People for the Future Economy*, which required school districts to implement a proficiency-based diploma system by 2018. The second phase examined the systemic facilitators and challenges encountered by school districts implementing this proficiency-based diploma system.

Sample and Sampling Methods

Several methodological steps were taken in designing and executing this study. First, a sample of schools and school districts was selected for inclusion in the study. Although all Maine school districts are mandated to make the transition to the new system by 2018, some schools had already begun the process when this study was commissioned in 2012. In fact, anecdotal evidence suggested many school districts all across the state have begun the process, but limited resources precluded a study of all these school districts. Thus, a sample of schools and school districts was selected based on six primary criteria:

1. Representative of different size schools and school districts, in terms of student enrollment and various geographic locations;

2. Representative of schools and school districts with rates of students eligible for free or reduced lunch lower than the Maine state average and higher than the state average;
3. Representative of school districts with various histories of student academic performance;
4. Representative of schools with different grade configurations PK-12;
5. Representative of schools and school districts that were just beginning implementation and those who had been implementing proficiency-based reforms for longer periods of time; and
6. Agreement to participate in the case studies by providing the MEPRI research team access for site visits, interviews, observations, and by providing appropriate documents.

Once an initial list of case studies was identified that met criteria 1-5, school district superintendents were contacted. Superintendents were provided an overview of the study and asked for their district's participation in the study. A second list of alternative case studies was identified in case a district in the initial sample chose not to participate. All but one of the school districts in the initial sample agreed to participate in the study. The district that declined expressed support of the study, but their administrators said their staff and students had been too overwhelmed with visitors, observers and researchers. An alternative district was identified and agreed to participate. Basic demographics of participating case studies appear in Appendix B.

Implementation Survey

In the first phase of the study, a survey was developed to collect baseline information from the case study schools prior to visits by the research teams. The survey was designed with three purposes in mind. First, the survey sought to provide the research teams a guide for conducting the case study in each school. Second, the survey aimed to gauge the potential value of the survey as a tool schools could use in their own self-assessments of the progress of their work. Third, we used the survey to serve as a pilot for a tool that could be used statewide or district-wide as a tool to monitor

and document progress of schools as they developed and implemented the new proficiency-based systems. A copy of the survey used in the study appears in Appendix C.

In order to ensure a representative sample of Maine schools, we administered the survey both to principals at targeted case study schools and to a small number of education leaders in non-sample schools. A total of thirty-two surveys were completed. An initial analysis of the survey responses of the two groups, the sample school administrators and non-sample school administrators, indicated that the groups were very similar in terms of their state of implementation of the new education system.

Case Studies

After sample schools agreed to participate in the study, the research team used an internally developed protocol to guide data collection and the school visits. Interview protocols for each focus group type, sample informative letters to school staff and students' families as well as a study overview document shared with administrators and participants were developed by the MEPRI research team and approved by the Institutional Review Board. In the first phase, interviews and focus groups were conducted with district administrators, school administrators, teachers, school professional staff, educational technicians, school board members, local business leaders, parents and students. In the second phase, district administrators, school administrators, high school guidance counselors, teachers, technology personnel, school board members, local business leaders, local teachers' association representatives, students' parents, a representative of the Maine Department of Education, college admissions officers and a lawyer with expertise in Maine school law were interviewed. In addition, we created protocols for observations of classrooms and meetings and the review of key documents (such as mission statements, district policies, student handbooks, family/community newsletters, curriculum scope and sequence outlines, sample standards-based

assessments, etc.).

In the first phase, a total of approximately 165 interviews and focus groups and 105 classroom observations were conducted during the 9 two-day case study site visits to schools. In the second phase, the research team conducted a total of 82 interviews and focus groups as well as 8 one-day case study site visits that incorporated conducting interviews and focus groups in district central offices as well as in various schools within the district. Data from these case study site visits was collected in the form of researchers' field notes, audio recordings of interviews, classroom observation notes collected through a secure online form shared by the research team, and documents provided by the school. Data analysis included individual transcription of selected audio recordings, thematic coding and organization of notes and audio transcription, and multiple verbal and in-person debrief sessions with research team.

It is important to note that this study was not designed to evaluate the school districts, district or school staffs, or the progress they were making in developing proficiency-based diploma programs. Rather, this study was intended to document the work of these case study schools and school districts as well as identify any obstacles they were encountering during their development process.

FINDINGS

Our analyses of data from this study revealed that individual schools and school districts employed a variety of strategies as they began to make their transition to a proficiency-based diploma system. For example, some schools took this opportunity to embrace a school-wide reform that sought to transform school culture, academic expectations and classroom procedures while other schools attempted to gradually implement elements of standards-based grading and reporting in addition to refining their existing standards-aligned curriculum and assessment tools. The data also revealed varying levels of progress in developing the different components of the system: some districts were in their first year of piloting various proficiency-based approaches with individual teachers, and other districts were involved in implementing well-established, whole-district policies of proficiency-based education.

Cross-case analysis did reveal some common steps school districts had taken or were planning to take to implement a proficiency-based diploma system. In addition, practitioners and key stakeholders raised essential components that were necessary to developing a sustainable system that could achieve the core goals of improving student performance on common standards. These findings were conceptualized in a working model of the development of a proficiency-based diploma system that is rooted in experiences of case studies from this research but also reflects significant ideas and findings from the literature reviewed in this report.

CONCEPTUAL FRAMEWORK

After an extensive review of the literature, it became evident that, while there are many conceptual pieces describing what a standards-based or proficiency-based education system *should*

look like, there are few existing conceptual models that envelop all of the requisite elements for successful implementation. Furthermore, there is limited empirical evidence of the effectiveness of these systems, which has resulted in school districts having little historical information and no clear evidence to guide them in developing the new diploma systems. In the absence of evidence or models, MEPRI researchers concluded that it was important to present a heuristic working model to represent the findings of this research (Figure 1). It is important to take note that the proposed model represents proficiency-based reform depicted as a *system*, consisting of several interrelated components. In addition, transition to this approach entails systems change. Thus, we argue that in order for successful implementation to occur, there must be evidence of significant reform in all the components in the system, from policymakers to practitioners to community members, and schools must concurrently involve these multiple stakeholders in its approach to change.

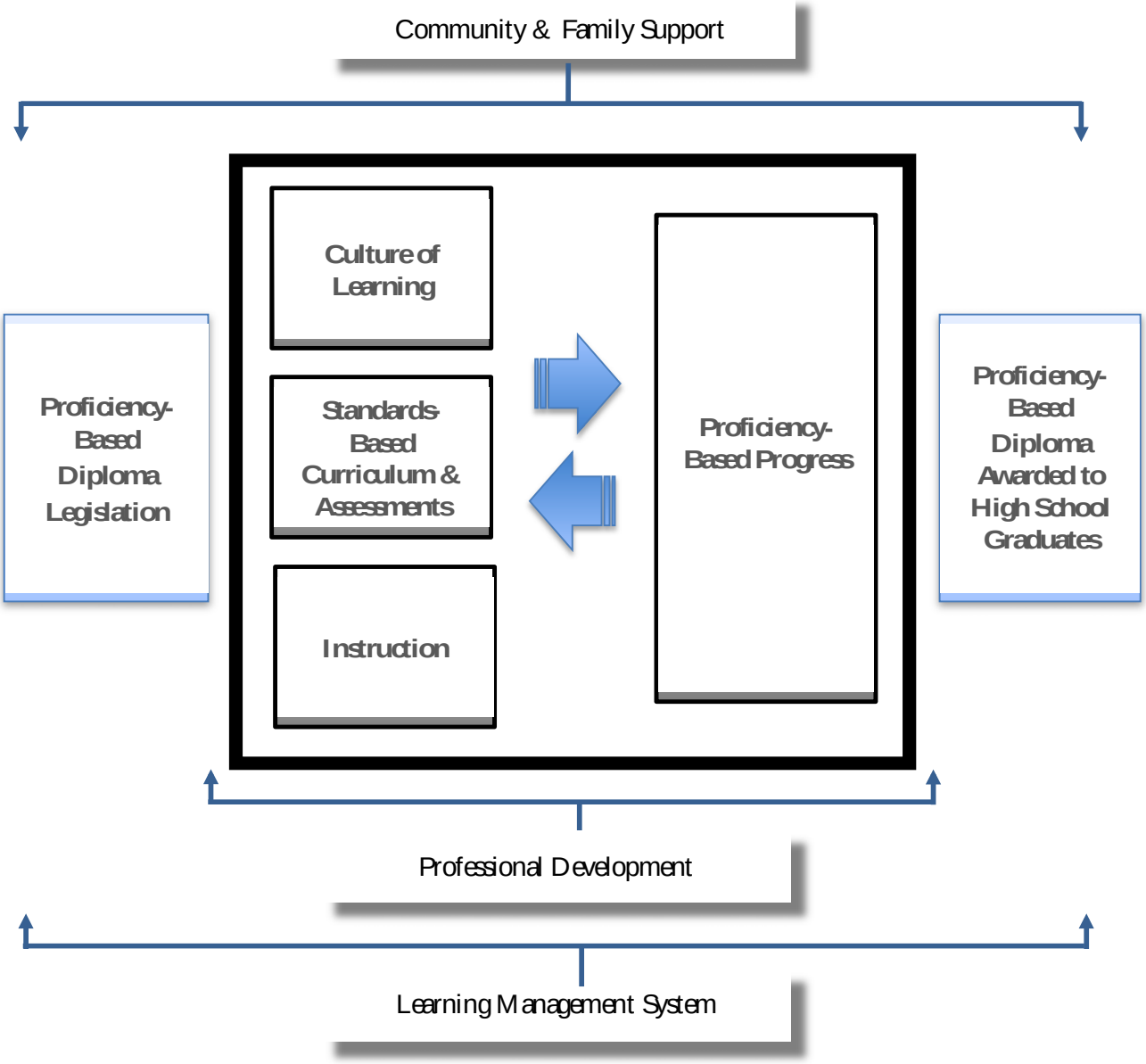
The model begins with a legislative act because this appeared to be a necessary impetus for inspiring all public school systems to begin developing this system in earnest within a common timeframe and a common goal. A handful of schools in Maine had embraced this type of reform earlier, but this law brought important dialogue about scaling-up proficiency-based education to the forefront of all public schools. Many education leaders quickly realized that a key characteristic of proficiency-based progress was the students' and educators' motivation to learn and collaborate in an invigorating, supportive environment. This prompted many schools to improve and construct this culture of learning. During this collective development of culture, educators dedicated significant professional time to independent and collaborative alignment of curriculum and assessments to locally adopted or created standards. The vast majority of participants in this study, especially leaders and administrators, identified improved instructional practices as the ultimate goal of these reforms. This was often discussed in professional collaboration, but our observations also indicated that

translating the policy and visions of adult intellectual work into improved instruction was a significant challenge in many schools. Although, it is clear that is a critical component of a successful educational approach to reform. These steps to building a proficiency-based diploma system also relied on developing clear, common policies and practices regarding how students progressed and demonstrated achievement. All of this school-level development was interconnected and needed to be approached systemically; it was not a strictly linear process with a static order of completion. In fact, when certain policies about proficiency-based progress were established, it was often important to revisit how this could affect the culture of learning and classroom instruction. So, it is important to see the interrelated, on-going nature of the development process in this model. Ultimately, building this system culminated in policies and practices that resulted in awarding high school graduates with a proficiency-based diploma reflecting their skills and knowledge.

The Working Conceptual Model of a Proficiency-Based System highlights crucial components of the work schools and school districts must undertake to engage in a reform that improves the educational experiences of all children. Throughout this process, key stakeholders and supporting elements must be incorporated to facilitate the change and build a dynamic system that can be sustained. It is clear that professional development time is needed to collaborate, build a collective vision, align curriculum and assessments to standards and improve instructional practices. Many participants in this study emphasized that this professional time must be a regular, systemic part of the compensated work done by practitioners in order to realize sustainable changes. In fact, sustainability was a critical characteristic raised by numerous stakeholders. A fundamental aspect of a proficiency-based diploma system is management and communication of learning resources, student work, achievement reports and measures of accountability. It was clear that a comprehensive learning management system was needed to streamline this data and information in an efficient manner.

Using the foundation of professional development and a learning management system, an effective proficiency-based diploma system also needs to establish the support of local taxpayers, business and civic leaders and citizens as well as the essential input and understanding from students' families. The relationship of each individual component of the model highlights the interrelated, dynamic nature of the systems change involved in developing a proficiency-based diploma system.

Figure 1: Working Conceptual Model of a Proficiency-Based Diploma System



Systems Approach

Maine represents a context that has been working with standards-based system changes for over fifteen years. In 1997, the *Maine Learning Results* were adopted as common standards delineated by grade-levels in elementary and secondary education. Educators and local administrators dedicated significant professional time to understanding and implementing these standards developed by Maine educators and leaders. Although a statewide attempt to require a common assessment system based on these standards ended unsuccessfully in 2007, most Maine school districts had developed local curricula and assessments aligned to these standards. In 2010, Maine adopted the Common Core State Standards and continued to encourage standards-based education, culminating with the 2012 legislation of *LD 1422*, mandating implementation of a proficiency-based diploma system. Thus, the Conceptual Model begins with this legislative action by policymakers because many school system leaders indicated that they used the impetus of this most recent statewide initiative of implementing a proficiency-based diploma system to explore related approaches and measures towards local systems change. Understanding the historical context in which transitions in education reform take place is crucial to predicting stakeholder buy-in, and may help to curb initial resistance.

Similarly, an additional overarching component of the Conceptual Model is an awareness of how individual schools and classrooms are situated amidst a broader educational system. For example, one administrator said, “Staff needs to be really clear about how it works into the whole system." In this quote, the "it" is describing a student's grade, but there were similar comments with regard to many other components of the educational system: teacher evaluation, curriculum standards, assessments, instructional practices, behavioral expectations, definitions of student progress, students' developmental stages, post-secondary requirements, etc. As one principal said, "We are working on how to report out, how to teach, and how to work within our system.” Another

administrator said, "There has to be a strategic way to build this into a proficiency-based *system*."

There is a great deal of existing literature that analyzes distinct working systems and proposes models for engaging in successful systems thinking. For example, Richmond (1993) expressed the importance of examining and developing systems with the understanding that each component or factor connects to and affects the other characteristics in an on-going process. He states,

> The shift from one-way to circular causality, and from independent factors to interdependent relations, is a profound one. In effect, it is a shift from viewing the world as a set of static, stimulus-response relations to viewing it as an ongoing, interdependent, self-sustaining, dynamic process. (p.118)

Thus, a key element of systems thinking is shifting from the isolation of each characteristic of a system (e.g., a student, teacher, classroom or school) to consideration of all characteristics as they relate to each other. It is also critical to recognize that individual components may change as the system is built and matures or as students progress through the various grade spans or developmental stages.

Understanding how to incorporate change and sustain an approach over time is another critical component of systems thinking. "Most advocates of systems thinking agree that much of the art of systems thinking involves the ability to represent and assess dynamic complexity (e.g., behavior that arises from the interaction of a system's agents over time)," (Sweeney & Sterman, 2000, p. 249). Our data indicated that schools that had been implementing proficiency-based practices for at least five years agreed that the initial work to build a culture of learning and align curriculum and assessments to standards was arduous and challenging. Educators and administrators in these schools

did express that the intensity of the work may dissipate as these components were established but continuous work was required to maintain them as they incorporated the on-going realities and changes. Since a vast majority of elements that make up an education system are also intertwined with other social systems--such as economy, health, welfare or civil rights--changes to one system have intended and unintended consequences on another system. Rittel and Webber (1973) would identify these as "wicked problems" that are "never solved…at best, they are only re-solved—over and over again" (p. 160), and "any solution, after being implemented, will generate waves of consequences over an extended—virtually an unbounded—period of time" (p. 163).

Such systemic changes can be daunting, and many practitioners in this study were asking for more guidance and support to build this comprehensive proficiency-based diploma system. As indicated by the Director of Special Education at the Maine Department of Education,

> Up through December 30, 2017, a student can graduate based on the accumulation of credits. But, that graduating class of 2018 has to be graduated by the demonstration of standards. The tricky part is that the switch just doesn't go on January 1, 2018. Those students have to be moving through a standards-based system in order to demonstrate that by the time they graduate in 2018, (Braff & Breton, 2013)

A district's plan for its proficiency-based diploma system in Maine is not due for approval until 2018, but it must demonstrate that a 2018 high school graduate has had four years in that system. One education leader said, "Students entering ninth grade next fall [2014] will be all coming in at different levels and have not 'grown up' in a proficiency-based system; yet, we will be expected to have them all show proficiency on the standards in order to graduate. That's huge." Many district leaders indicated that they would need additional supporting resources and professional time to develop a comprehensive proficiency-based education system that provided students opportunities

for success at various stages and grade levels.

Although a standards-based education reform requires fundamental changes in key areas of traditional educational systems, Lindblom (1959) began the conversation of "incremental policy" by proposing that small policy changes can actually have great impacts. He described the reality of implementing policy as incremental branches "building on the past"(p. 81). This alternative process of "muddling through" (p.79) allows reaction to unanticipated changes or errors, and involves stakeholders in a more relevant development of plans and encompasses an on-going process of constant evaluation and adaptation. Therefore, the Working Conceptual Model of a Proficiency-Based Diploma System does not reflect a linear framework, rather it is one in which the components must be revisited again and again to support existing work and encompass new participants or realities as they enter the educational community.

CULTURE OF LEARNING

Local leaders and practitioners were clear that this reform to develop a proficiency-based diploma system, as many educational reforms, requires a baseline of investment from stakeholders and demonstration of certain beliefs about learning. This includes the need for students to demonstrate fundamental levels of engagement and responsibility for their learning as well as educators and leaders actively modeling this learning in their professional work. Therefore, this system requires either an established culture of engaged learning or the development of such a culture within the schools and the district as reflected in the Working Model's representation of a "Culture of Learning."

In the months following the passage of *LD 1422* in 2012, the data show that educators and leaders in Maine worked diligently to embrace and implement its core elements, including the

development of a proficiency-based diploma system. In these initial months, district personnel, administrators, and teachers were required to familiarize themselves with the complex law and the changes at the school level that would be required to implement the systemic changes. In schools that lacked a culture of student engagement and an overall positive school climate, preliminary work was required in order to establish these school-wide expectations. One teacher said, "It's about creating that culture for learning...We do a lot of work developing norms for the classroom, and so it's their rules that they have to follow." Schools were working to develop collaborative "codes of conduct" and "standard operating procedures" with student representatives in order to improve the academic focus and work habits of students during the school day. Building this type of educational environment required paradigm shifts around beliefs about student learning, teacher role, collaboration, and even the structure of many traditional elements of public schooling. However, many teachers and educational leaders in these schools believed that this work was truly improving the culture of their school and increasing the level of student engagement in both individual academic work as well as regular classroom activities.

Improved Student Engagement

Many administrators, teachers, and parents indicated that having transparent expectations and standards engaged students more thoroughly in their education. Our data show two specific reasons for why this may be true: students have a clearer sense of academic expectations and the clear set of proficiency-based standards provides students with a more deliberate sense of motivation. For example, one middle school administrator said, "Students have more tools in their toolbox to talk meta-cognitively about their learning." Similarly, a school administrator said, “Kids can tell me what they are working on. They are engaged." This was, in part, a result of the fact that students played a more active role in formulating their academic pathways. One principal described their work as

"crafting a roadmap with student input." As a result, students were able to set up and meet academic benchmarks, providing them with short-term and long-term motivation towards the goal of proficiency and college readiness. One parent captured this, saying, "[A proficiency-based system] motivates kids. Kids know what's expected of them, and they know that when they get it, they can move on. I was surprised by how much drive and motivation my own children have in this new system." Similarly, an administrator commented, "[Students] are empowered to take that next step in their learning." Across several schools, there was evidence that the culture of learning had impacted students' levels of engagement, which school personnel often credited with also increasing their overall performance.

STANDARDS-BASED CURRICULUM & ASSESSMENTS

The logistically complex process of adopting or developing local standards and aligning them with curriculum and assessment is a critical and time-consuming element that underlies the process of building a proficiency-based system. When standards are neither already in use nor externally mandated, system leadership must make decisions about both the content of the standards and the breadth of their implementation, identifying which levels of student work must be aligned, assessed and incorporated in determining proficiency and progress.

Repeatedly, participants noted the significant professional time that was dedicated to aligning curriculum and assessments to content and work habit standards in some of the schools in the initial stages of implementation. One teacher said, "Key components of standards-based education are identification of standards...and using those standards to design rubrics which drive the grading." Similarly, a superintendent said, "[we must identify] not just academic standards, but the habits of mind and the structures have to be in place in a school [to support implementation]." In addition, many practitioners allotted great effort to balancing high academic expectation while respecting

students' voices and curricular choices in order to provide the elements of "student choice" and "multiple pathways" as delineated in the Maine legislation. Educators across all of the districts included in our study were working diligently to develop PK-12 curricula and to understand the content and developmental goals of grade levels above and below them. An elementary level teacher said, "The elementary school has been standards-based for many years. It would be ideal if we could be trailblazers for [our district]." A parent agreed, "Elementary school is ready for the change. Teachers are already used to being open and communicating regularly with parents." Therefore, it was suggested by some participants that the existing models provided by the elementary level could be adapted to the specific developmental stages throughout PK-12.

Approaches and Practices to Developmental Levels

A core element of the implementation of a proficiency-based diploma system is the alignment of standards to guide students from pre-kindergarten to high school graduation. With this intentional work, students acquire the skills required to progress, preparing them, ultimately, for success in college, career, and citizenship. Our data suggest that while collaboration is critical, implementation with the end-goal of successful alignment must acknowledge the distinctions among the different learning stages of children within a PK-12 educational system. One administrator said, "There has to be differences between elementary school and high school implementation of a proficiency-based system." Most school leaders and educators underscored the need to address academic development in concert with cognitive, social, and psychological development. They also expressed that various stages of these areas of development were unique and should be approached appropriately. One elementary school principal agreed, "High school should look different from elementary and middle school for kids." Thus, there is not simply a "one size fits all" to implementation across the years, but it should scaffold developmentally across the students'

educational experience. This finding is supported by the extant literature examining human development. There are numerous theories exploring the various stages of human development (Piaget, 1936; Skinner, 1938; Steiner, 1996). While the exact age of certain stages of development, especially as it relates to students' learning, may vary by individual child or theoretical model, it is commonly understood that these distinct stages exist and understanding them helps educators better address the needs of students.

The school districts in this study grappled with the issues germane to meeting the needs of the various developmental levels from PK-12 and the expectations of the reform efforts. In the earlier grades, there was a palpable mismatch between the goals and priorities of the schools and the philosophies of some reform models. In our interviews, pre-kindergarten and kindergarten teachers indicated that community building was a much more critical focus of their classes than personalization or customized learning plans for each student as required by some districts. For example, a district administrator said, "It has been clear in kindergarten through second grade level that we need to have that [teacher] presence and constant routine." However, as this quotation suggests, the reform efforts sometimes precluded adherence to such routines, and prioritized alternate learning components, such as differentiated learning plans. Of this, one kindergarten teacher said,

> Differentiated learning is important, but you have to build community first, especially in kindergarten. Some children have never gone to school before. It's all so new. They need to learn how to be part of the community before they learn content standards.

Another elementary teacher echoed that sense of unease, "The concern at lower elementary level is so much community-based and social learning. We need to create that network for kids. We are concerned about social, emotional, and behavioral learning: building a sense of community."

Robust Intervention Systems

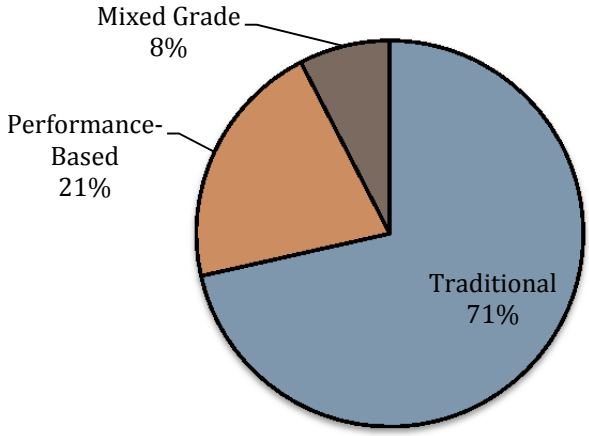
Increased awareness of student development and progress in a proficiency-based system was recurrently cited in our data as a potential benefit of this educational approach. School leaders and educators at all grade levels set up systems that monitored students' progress and identified students who were not meeting standards. Parents, educators, administrators and support staff shared multiple examples of utilizing this monitoring system to identify students who were struggling academically and/or behaviorally. This practice reportedly happened much more quickly and directly than in the past, due in part to the development of corrective systems that were put in place along with reform efforts. One principal indicated that the key to a strong proficiency-based system was "a really good intervention process--summer, vacations, or after-school--long-term intervention plans." Another superintendent applauded the district's work to provide professional collaboration to "determine what the student needs are and who can best meet them." Correspondingly, many schools had built intervention times of thirty to ninety minutes per day or focused intervention courses for students identified as needing more support to meet standards.

INSTRUCTION

The desire to build on the standards-aligned curricula reform in order to improve classroom instruction was evident with many participants in this study. A literacy specialist said, "There was a need for change. We wanted to improve instruction." However, questions were raised when teachers discussed the logistics of this instructional change: What should be the appropriate pace of instruction? How do we keep students focused and on-task while also differentiating for various skill levels? Where is the best balance between individualized learning and collaboration or group work? Systemic changes to incorporate transformations in instruction that reflected consistent methods for implementing performance-based practices were not evident in the case studies in this research.

In fact, traditional (age-based or grade-level) groupings and classroom structures were the most frequent instructional practices recorded in this study's classroom observations (n=105). As seen in Figure 2, 71% of classroom observations reflected only the use of traditional instructional groupings of students (this included traditional mixed-grade courses in mathematics or Advanced Placement at the middle and high school level). 21% of observations identified classrooms where instruction was given to students in groups determined by their demonstrated performance on common standards. The remaining 8% of observations revealed classrooms that had mixed grade levels and some ability grouping but the structure was not based on proficiency levels or common standards.

Figure 2. Instructional Grouping of Students
PK-12 Classroom Observations



PROFICIENCY-BASED PROGRESS

From the foundation of these educational practices, policies and logistical structures that

define proficiency-based student progress must be developed and implemented. For example, determining system-wide agreement on the way in which students move through the educational system (grade levels, developmental levels or age-based phases) provide important benchmarks for student progress as well as a structure for aligning appropriate standards.

Most schools in this study defined proficiency-based learning as "requiring students to demonstrate proficiency in a standard before moving on." However, "moving on" was defined in various ways, including:

- Students were not allowed to engage in the subsequent lesson or unit until they had earned a proficient grade on the current assignment, often providing targeted assistance with the current assignment until mastery was demonstrated;
- Students continued at "teacher pace" through the curriculum regardless of proficiency levels, but were identified for pullout or outside-of-school interventions until all past standards had been met;
- Students were required to demonstrate proficiency to earn course credit or move to the next grade level;
- (Most commonly in high schools) students progressed to the next course or grade level if they met Carnegie Unit requirements and passed the required number of courses;
- (Most commonly in elementary and middle schools) students progressed through traditional grade levels and entered the high school regardless of proficiency levels, but their course placement in high school and level of required interventions was determined by the standards students had or had not met.

There was variation across the case study schools in the selection or organization of standards as well as the policies for determining proficiency. Some schools had grouped key standards or developed

"power standards" in which students were required to demonstrate proficiency before moving on, while more minor standards aligned to curriculum but not a requisite for student progress. A school leader said, "Teachers are revising their curriculum using the Common Core standards and having discussions about Power Standards, the most essential content. Too many standards is an unrealistic, inauthentic expectation of students." It was also commonly agreed that some standards should be demonstrated multiple times, and the Maine statute requires "multiple pathways" for students to demonstrate proficiency. However, again, schools held various interpretations of "multiple pathways":

- Providing unlimited opportunities for students to re-do assignments required for demonstrating proficiency,
- A trending system of grading to allow students to demonstrate improvement over time,
- An averaged grade of a teacher-determined number of attempts on required assignments, or
- Allowing various degrees of student choice on the method or format of demonstrating proficiency on a required standard.

So, while 80% of surveyed school leaders indicated their schools had initiated the process of developing "a system of advancement that is based on student demonstration of proficiency or above on required standards," the curricular and instructional practices implemented to meet those legislative requirements varied among schools and even between some schools within the same district.

Administrators also raised concerns about the repercussions of higher standards for awarding a diploma and expressed uncertainty about potentially lower graduation rates. For example, one high school principal in this study of said, "We know there are a number of kids who won't meet the bar.

That is why our district's standards are lower." Since the standards that have been recently adopted by school districts often have "an underlying theme of 'fewer, clearer, higher' standards for math and literacy" (Phillips & Wong, 2010, p. 2), the necessary support systems PK-12 to maintain or improve current graduation or progression rates could take time to develop. In addition, many of these early implementing districts were being held up by reform organizations and the Maine Department of Education as models, thereby "increasing the pressure to show examples of our successes," according to one educator. Although such identification served as an honor for schools, it also increased demands on already taxed resources.

Participants also raised fiscal concerns when discussing how students would progress through a proficiency-based system. Some reform approaches encourage developing a system that supports "learning that empowers personalization, expanding students' voice and choice, to learn at their own pace, anywhere and anytime" (Patrick & Sturgis, 2013). *Education Evolving: Maine's Plan for Putting Learners First*, a strategic plan released in 2012, describes the need to "transition Maine schools to a model in which students have more of a role in organizing their education and more choice in deciding how they master academic standards" (Maine Department of Education, 2012). However, local interpretations of this practice appeared to have fiscal implications for a public school system that has traditionally provided funding for thirteen years of education (K-12) for the vast majority of its student population. A Maine lawyer with a specialty in school law explained that allowing more time for students to graduate was legally permissible, "School must be provided to age 20 and adult education after 20. So, if the proficiency-based system provided the student to get their diploma through adult education system beyond the age of 20 or extend the age eligible of secondary school, that would be legal." However, a superintendent indicated that if his district allowed students to progress at their own pace, "Kids will be here longer. I'm not sure we have the taxpayer support to

fund that." A representative of a local teachers' association said, "We would need substantially more resources and money." A Maine lawyer agreed that there may be additional costs, and concluded that "due process hearings against schools will increase." Therefore, many school districts had shifted their practice to provide classroom instruction at "teacher pace or faster." Parents appeared to appreciate this type of change. One parent said, "Without deadlines, my son just never completes the homework. I worry he won't be ready to graduate on time." Students unable to demonstrate proficiency at the teacher pace were identified for intervention support.

PROFICIENCY-BASED DIPLOMA

Almost every participant agreed that high school offered a unique set of challenges. Some very real barriers to changing traditional practices were raised. These included changing grade reporting, schedules, and methods of student progress. For example, one teacher said, "It's different at high school level, because there are real outcomes, such as diplomas, transcripts, etc." Given the increased need for postsecondary education and the corresponding increase in competition to secure admission, teachers, students, and parents expressed concern around how the changes resulting from the new reforms would impact their applications' translatability in post-secondary institutions. A teacher said, "Parents are much more worried about GPAs because they were concerned about scholarships." Such hesitation indicated either a tension in the systemic change or a greater need to prepare parents and communities for this change.

Repeatedly, our data show that various school and district personnel offered strong language about the difficult demands of high school. "High school is just different." "The high school is unique." "High schools are strange animals…It's a lot more complicated and the stakes are higher." Although the ultimate goal was to get students successfully to graduation, the requirements have historically been different than those laid forth in the present standards. For example, one high

school principal said, “Right now the high school takes the most tension between proficiency and graduation rate." Many districts were allowing students to continue to progress through the grade levels regardless of their demonstration of proficiency on key standards, causing a perception of added pressure on the high school to support the students enough to catch up and graduate with their class. Educators referenced research that suggested grade retention led to greater dropout rates and student disengagement (Alexander, Entwistle & Kabbani, 2001; Goldschmidt & Wang, 1999), but there is also research that weighs the impacts of social promotion (Allensworth, 2005; Heubert & Hauser, 1999; Nagaoka & Roderick, 2004). Although there are direct consequences for student performance at all grade levels, high school staff and students in this study expressed that they felt an explicit pressure from peers, families, funding sources, and in accountability measures to maintain high four-year graduation rates.

Concerns about graduation requirements in the wake of the new expectations of the proficiency-based diploma system legislated in Maine were heightened when discussing special education. As part of the new standards, the Maine Department of Education had recently clarified that a diploma must only be awarded to students demonstrating proficiency in all eight content areas identified in the Maine Learning Results: Career and Education Development, English Language Arts, Health Education and Physical Education, Mathematics, Science and Technology, Social Studies, Visual and Performing Arts and World Languages. Several special education administrators and teachers raised concern about what this meant for some of the students in their special education programs. One special education director said,

> There is a population of kids with really prevalent learning problems. However, they are not intellectually disabled so will not receive direct adult supports from the state. They are reading and [doing] math at a functional level and really, really struggling with basic skills.

> The goal for us is to help them find work that will fulfill their dreams. Teaching them how to be employable, balance a checking account, and read the newspaper...Right now, they get a diploma. But what they will get in the future, I am unsure.

Another special education administrator said, “We are closing the doors on some opportunities for kids." {It should be noted that since this study was conducted, some supporting documents have been released by the Maine Department of Education and statewide organizations of Special Education practitioners to further clarify and assist implementation of LD 1422 with the Special Education population. However, follow-up conversations with administrators, school law specialists and educators indicate that not all concerns have been alleviated.}

College Access

The research team found that many high schools in this study had addressed the added pressures of changing transcripts and graduation requirements by maintaining traditional grading practices or developing dual reporting systems that included standards-based reporting (usually based on a 1-4 scale, identifying proficiency levels on key content and work habit standards) alongside traditional A-F course grades. "Parents are still highly concerned that the information is available if the colleges need it.” One high school guidance counselor said,

> I really worry. There are mixed messages from colleges; it depends upon who you talk to at the colleges. Those people saying it's okay must not be admissions folks, because when we met recently with a college admissions panel, they acted perplexed about how to interpret standards-based transcripts. We were told that you needed to have a key on your transcript, and if that transcript itself was not clear-cut and concise, students would be at jeopardy.

These sentiments were echoed by a number of guidance counselors, high school teachers, administrators and parents, each of whom raised similar concerns about how to best develop a standards-based reporting system that met the needs of various types of post-secondary institutions.

In order to create a deeper understanding of how proficiency based standards connected K-12 with higher education, the research team interviewed an admissions counselor and admissions director at two highly selective, four-year colleges. While their comments are not generalizable to all postsecondary institutions, the perspective that they provide is important to considering how K-12 reforms impact students' academic experiences after high school graduation. The college personnel reported that they received thousands of application from around the world reflecting various high school experiences, including home schooling and alternative education programs. However, there were clearly some elements of the college application that were vital when distinguishing qualified students for acceptance at highly selective colleges. The admissions officers pointed out that it is important to remember that each application must be clearly understood and easily compared to other applicants in a short amount of time. For example, one institution received 11,000, each of which the staff of 15 reviewed over a three months period. Ultimately, approximately 2,200 applicants (20%) were offered admission. One college admissions personnel indicated

> A school needs to do a good job in its [school] profile of explaining what the academic program is. We are selecting students that have chosen the most selective path through the curriculum...By a good job, I mean understanding the grading system and GPA [grade point average] scale is important. There are lots of different approaches that can work, but [the transcript] must distinguish course levels and rigor of courses.

When asked what information on a transcript was particularly useful when making the admissions decision, the college admissions director replied,

> Course selection is critical, but work habits grades would be very unhelpful because on the common application the teacher recommendation has a space to capture work ethic...GPA is helpful. We need a system that makes it clear who has taken the harder courses.

Additionally, the college admissions director indicated that proficiency alone was an insufficient indicator of academic success, saying, "Achieving proficiency means very little because of various definitions of proficiency. College admissions want to understand what sort of high school classroom have the students been in. A standards diploma does not mean it's not a good transcript, but I'm not sure a standards diploma is going to help us know more or less."

These conversations with case study high school personnel and college admissions counselors indicate that the expectations of colleges and universities need to be understood clearly when considering how proficiency based standards should be implemented and reported out by the schools. Several high schools in this study appeared to be addressing these issues with dual reporting methods that integrated both standards-based grading at the local level and traditional information needed from colleges.

Career-Readiness

Another key component of *LD 1422: An Act to Prepare Maine People for the Future Economy* is to ready Maine's children more adequately for the opportunities and challenges they may face after their PK-12 education. Many standards-based reforms explicitly reference intentions to raise post-secondary aspirations and achievement in civic, academic and professional endeavors (Achieve, 2012; Bill & Melinda Gates Foundation, 2014; Nellie Mae Education Foundation, 2014; Sturgis, 2013). Research has suggested that workplace expectations in the United States are shifting and many more jobs require post-secondary training or certification (Levy & Murnane, 2004). It is suggested that 62% percent of U.S. jobs in 2018 (compared with just 28% in 1973) will require post-secondary

education or training (Carnevale, Smith, and Strohl, 2010). This shift has led to the collaboration of business leaders, education practitioners and leaders of educational reform in a call for higher standards to better prepare students to be successful in their post-secondary pursuits. Several states have explored the inclusion of career or technical competencies in legislation to transition to standards-based high school graduation requirements. For example, starting in 2007, Oregon mandated that students had to demonstrate proficiency in "career-related learning standards" to earn a high school diploma (Oregon State Department of Education, 2010), and one of Maine's eight content standard areas in which proficiency must be demonstrated to earn a high school diploma includes "Career & Education Development" standards (Maine Department of Education, 2014).

A clear goal of many school districts in this study was, as one Maine principal said, "trying to prepare [students] for what happens when they go to college or work." Therefore, our data include interviews with civic and business leaders as well. Many of these discussions with local professionals revealed a general support for improving their community's educational system and highlighted the importance of providing students with the skills to be college and career ready. A local community leader said, "K-12 education should include a whole different level of community: significant civic engagement, research, opportunities for internships...and prepare students for jobs." A local business owner said, "Businesses want high school graduates to have a mastery of the English language, the ability to communicate...keep a budget...be adaptable." Specific trade skills or expertise were very important in some fields. One business administrator said, "We want welders. It is great to be a creative thinker and life-long learner, too, but I need workers who know how to weld." Conversations with vocational educators and alternative education teachers in the case study districts in this study made it evident that these "multiple pathways" offered in many high schools must also be included in the core systemic changes implemented when changing to a proficiency-based

diploma system. However, the data gathered in this study regarding this area was limited. Understanding career readiness, vocational training and alternative educational pathways is a critical component of developing a comprehensive PK-12 proficiency-based diploma system and warrants further study.

PROFESSIONAL DEVELOPMENT

Developing dual systems and understanding the greater implications of the logistical changes necessary to implement a proficiency-based diploma system required significant time and training among educational professionals. Opportunities for professional collaboration and collective work among school personnel were repeatedly cited as a critical characteristic of schools and school districts that felt successful in their implementation of a proficiency-based diploma system. In our interviews, education professionals were adamant about the need to have more compensated time aligned with this type of work. Teachers and school administrators indicated that "writing curriculum together," having common early release or late arrival time, and "freeing up other professional development time for collaborative work" were steps in the right direction, but "more time is still needed." Educators, teachers' association representatives, and administrators all expressed that "a challenge is time for adults to collaborate that is compensated." Many participants indicated that they would be open to alternative scheduling, differentiated professional development, or modifying employment contracts as long as "work is compensated fairly."

The designation of time for collaboration was especially important in the initial years of aligning curriculum and developing common assessments. One special education administrator captured this saying, "We need more time to do it right and more professional development around how to do it right. We need more professional guidance." This quotation suggests that the time for collaboration would be best spent when allowing not only for teachers and other personnel to work

together, but also to jointly receive professional development surrounding implementation and practice. As one teacher said, "We need more money dedicated to professional development--but not professional development where we go away to hear a speaker or bring a speaker here--but time in our own districts with our own people getting curriculum aligned and high-quality common assessments developed. And those doing all of that work need to be paid as the professionals that they are." This quote also suggests that it is not only the designation of time, but also creating *quality* opportunities for professional development that is crucial to successful implementation.

Professional Collaboration

All school districts in this study shared the belief that developing a "seamless" PK-12 educational system, in which curriculum was aligned to content standards and common assessments of students' proficiency levels, was a critical component and strength of a proficiency-based diploma system. As a result of this stressed priority, there was increased evidence of enhanced inter- and intra-school collaboration to support students' learning goals at various developmental levels and in specified content areas. Many educators, administrators and parents in all districts said that the greater emphasis on collaboration among teachers across areas of expertise, grade-levels, content areas, and school buildings was a definite benefit of this work. For example, one principal said, "Professionals are being more open to working together." A special education director said that one success of their district's changes was the partially due to the "heightened level of collaboration between regular education teachers and special education teachers." A superintendent said, "One positive outgrowth of the work is a collaborative culture. Peer observations are now happening. Before it was like silos, but now people are more willing to share best practices." With shared expectations, teachers and administrators created comprehensive plans to support students as they worked towards the clearly stated academic goals.

These efforts to develop PK-12 collaboration were a welcome change in many districts where previously they reported the teachers worked in silos both within and across schools. A school administrator in a district that had been implementing these reforms for about three years said, "We're past closed door policies." The administrator highlighted changes to past professional practice that allowed teachers to work in isolation and now encompassed greater collaboration, sharing and collective goals among educators in various grade levels, schools and content areas. A high school teacher indicated that a positive aspect of the changes was greater "vertical teaming with middle school teachers." Many teachers underscored that it was critical to know the expectations that had been held of students prior to their class in order to understand the student's knowledge base and learning gaps. Educators also shared that having a clear awareness of the standards or expectations that would frame their students' future education was essential in making sure they were prepared for those next steps. As one high school principal said, "There needs to be backwards planning to say what end result is wanted." In order to accomplish this, teachers and administrators vastly benefited from professional development sessions that allowed for joint collaboration across grade levels.

One school leader said, "Teachers are learning how to do it, and they need time to work together to get there." Our data indicated that schools provided professional development and training for educators in various forms, including:

- compensated work sessions during school vacations,
- consistent (usually weekly) professional time without students during school hours when students were released a couple hours prior to the regular end of the school day ("early release") or arrived a couple hours after the regular start of the school day ("late arrival"),
- common collaborative professional time embedded within the daily schedule, and
- traditional teacher workshop days.

There was a clear call from educators and administrators that this change to proficiency-based diploma systems required additional professional time for training, collaboration and collective monitoring of student progress.

Educators in districts in which there was a longer history of implementation of proficiency-based education emphasized that increased collaborative work should not overshadow individual areas of expertise or interest. For example, high school English teachers in one district said that the opportunity to attend the National Council for Teachers of English annual conference provided direct curriculum support and material that invigorated their instruction. In the first few years of implementation, teachers lamented, "Teaching to the target, over the last couple of years, has taken away from the creativity and the guiding principles." As educators began to settle into their locally developed proficiency-based education system after a few years of implementation, it appeared that they rediscovered the importance of their own classroom instruction. A high school principal said, "Don't lose the creativity and the art of instruction. There is still a balanced model of instruction that is necessary and critical." Finding this balance between individual development and collaboration was clearly hard work and required on-going professional training, but understanding its importance was evident in most districts engaged in developing a proficiency-based diploma system.

LEARNING MANAGEMENT SYSTEM

In addition to arranging for professional development, one of the key professional challenges faced by case study districts implementing a proficiency-based diploma system was the identification and development of a learning management system. School and district personnel offered evidence of specific components of a valuable learning management system to gather data and monitor

performance; however, there was little evidence that these systems had been yet to be fully developed or available.

A general call for an efficient, reliable learning management system was evident across the case study districts. For example, one superintendent said, "We need to manage information much more efficiently because it is what's gotten in the way of initiatives in the past." Districts with technology personnel who had sophisticated programming expertise were generally satisfied with the "more mature products," but districts without this expert were at a distinct disadvantage. One district administrator said, "We don't have a person to manage that complexity of data K-12--a person with programming skills. We would have to buy or subcontract that." So, districts without such personnel expertise could purchase plug-ins, but these were additional costs. Most district leaders had comments similar to one technology coordinator, "Nothing has all the pieces yet."

Our interviews revealed many examples of how data was managed in its current form and extensive evidence that existing practices did not always contribute to common, collaborative practices of sharing, monitoring and reporting learning materials and student progress. One participant highlighted this, saying, "The lack of clarity on what [a proficiency-based system] is going to look like is a barrier...You cannot ask the technology pieces to fall into place before you have consistent needs." Additionally, many technology leaders urged administration at all levels to involve technology experts in the early stages of systems development in order to maximize efficiency and effectiveness. One technology leader said, "It is important to develop your needs and goals and then find the technology that fits those, not the other way around. You need to welcome the technology people to the table early, not after." Among the individuals interviewed for this study, many expressed the need to identify and develop a comprehensive vision and support structure prior to the implementation process. With an established learning management system, all invested stakeholders

would have a clearer sense of the implementation process and schedule and be able to align the components more systematically.

Role of Technology

In combination, the findings surrounding the need for a streamlined information management system echo earlier scholarship that suggests that systems thinking caters to the "dynamic complexity" that emerges when planning for and implementing a comprehensive reform, such as a proficiency-based education system (Sweeney & Sterman, 2000, p. 249). A school district's specific vision, analysis, and development of a proficiency-based system made certain aspects of technology critical to an efficient implementation. One district technology coordinator said, "Technology should be an organic extension of proficiency-based work, not just a tracking device. It should be a natural part of the feedback loop." This was particularly true in districts that had recently adopted other reform initiatives. Many educators and district leaders recognized and emphasized a comprehensive proficiency-based approach was a systems change, not just add-ons to a current system. One administrator said, "The challenge is that other things don't go away. There is always more and more information. New systems are often another new system on top of an already rickety system." Most districts had multiple platforms in use to conform to the state reporting requirements and provide standards-based grade reports that met their local formats. There were mixed responses to every system. Another district leader indicated, "There must be a commitment for a span of time to one set of standards and methods" to develop a sustainable new system instead of "tinkering at the edges of an existing system."

Thus, the evidence from the school districts reinforced the critical need for districts to understand the larger context of a proficiency-based diploma *system* and see technology and the

learning management products as tools to provide support once a vision and structure had been established. A technology director said, "This still requires time and training."

COMMUNITY & FAMILY SUPPORT

Stakeholders from across the diverse school districts frequently cited that a common strength of a proficiency-based education system was the potential for educators, parents and students to be collectively involved in monitoring the individual student's progress towards meeting academic standards and educational goals. For example, elementary school principal said, "Students can see their pathway and know where they're headed." In other words, the proficiency-based system helped students develop a clearer understanding of how their immediate tasks connected with their future goals. However, the benefits extended beyond students themselves, as many people noted that the proficiency-based system resulted in conversations among and between multiple stakeholders that led to a more comprehensive and collaborative discussion of education across various invested sectors. A superintendent said, "Proficiency-based diploma legislation has helped create conversation at the [local school] board level, support, awareness, and policy work."

In order to relay the corresponding changes to students' educational experiences that stemmed from the implementation of a proficiency-based system, district leaders indicated that it was critical to create deliberate plans for being transparent with parents and families. Existing work surrounding the implementation of standards-based reforms suggests that parents are crucial partners to successful implementation and execution of curricular changes (Hoover-Dempsey & Sandler, 1997; Hornby & Lafaele, 2011). To positively engage parents, systems should be put in place to create clear understandings of what the reform efforts will look like, the goals that drive them, and the expectations for parents' involvement. However, our data reflect that in spite of efforts at the

district level to create a common language surrounding proficiency-based reforms, the process of getting everyone, including parents, to a place of common understanding of new expectations could be difficult. One teacher captured this tension, saying, "A challenge [of implementation] is conveying this method to parents when teachers even are asking what it means."

Many teachers and administrators offered particular examples of ways that their schools tried to connect and engage with parents surrounding the impending curricular changes. Although many districts and schools held informational forums on a regular basis, administrators expressed frustration that these outreach attempts were usually "poorly attended." Even when they do attend, parents shared uncertainty about their understanding of a proficiency-based system. One parent said, "Parents struggle because it's not how it was done when we were kids. There are lots of words used in the system that were not used in our daily lives. This can cause fear." This quotation suggested a sense of trepidation among parents about new shifts at the school level, due to their lack of familiarity with the changes being made. This was further complicated if parents had previously been exposed to a number of curricular reforms. For example, one parent said,

> I've seen the report card change basically every year since [my daughter] was in kindergarten. It really started to become confusing when she was in 4th grade when they started defining learning targets...I'm so used to the ABCD [grade scale]. I wish they would go back to that.

Similarly, a parent of an elementary student expressed difficulty in identifying one contact person or advocate for her child, "Moving levels so much with new teachers is different. When I have a question, who do I call? Who do I talk to?" Therefore, clear identification of liaisons at the school level was critical for parents to make sense of the changes confronting them and their children.

However, when this communication among educators and families is successful, it can be a powerful part of a child's educational experience. One parent said, "The transparency is a tool for

clear advocacy. [It] empowered me to say, 'No, wait a minute,' when my child was struggling." A high school guidance counselor also described a successful proficiency-based system as "transparent for everyone who looks at it, including parents, students and school staff." This transparent system also allowed parents and educators to "know where [a student] is behind now and have intervention programs for her." A parent said, "I see specifically what my child is learning and find the gaps. For example, my child was struggling then I looked at the curriculum and noticed that he had skipped [some important concepts]. So, I told his teacher, and he went back to filling those gaps." In multiple case study schools, parents and teachers indicated that common and transparent standards facilitated and focused conversations between educators, students and students' families.

TRANSLATING POLICY INTO PRACTICE

Implementation with fidelity--consistent, common practices and definitions--is a concern with almost every reform and policy. The process of local implementation of state policy can sometimes feel much like the children's game of telephone: the initial speaker whispers a phrase in the first listeners ear, that listener turns to the next listener and whispers what he thought he heard from the initial speaker, and on and on until several people have repeated what they heard and the final listener announces what she heard. Often, by the conclusion of the game, the initial speaker's phrase or idea is unrecognizable. And, the longer the line of interpreters, the more likely the end result is different from the original message.

There are many examples of this loss in translation in various settings, and it is certainly a dilemma in education and education policy. Hill (2001) asserts, "Local interpretations of state policy figure centrally in standards-based reform efforts" (p. 290). She highlights how these incidents of disconnect may result in a loss in translation based on observations of a curriculum committee of teachers working to develop local standards from a state-level standards-based document similar to

the Common Core:

> One teacher's understanding of the word "test" (as and end-of-unit [mathematical] assessment) diverged from the meaning intended by the reformers, for whom "test" also includes instructional activities involving reasoning and proof. Other teachers did not dispute her reading, and reformers' attempt to convey a new aspect of instruction was lost. (p. 301)

Although many proficiency-based or standards-based reforms are inspired by a call for consistent competencies from all graduates, local interpretations of standards can undermine that desired outcome.

Our data suggest that an additional issue with local translation of external standards and state-level legislation was evident in the lack of consistency in the definition of key features necessary in developing and implementing proficiency-based diploma systems. In our sample, most school districts that had been implementing a proficiency-based system for three or more years developed policies that aligned more closely with reformers' definitions of a "standards-referenced" system. Per the Maine Department of Education (2014), a standards-referenced system is “used to guide curriculum and measure student progress. Students generally advance in age-based cohorts (grade levels) and may advance without demonstration of proficiency on specific standards.” In contrast, "‘Standards-based’ means you don’t move onto the next level until you demonstrate mastery at this level. I don’t move on to sixth grade mathematics until I’ve demonstrated all the topics in fifth grade mathematics" (Dodson, 2010). Therefore, this approach suggests that students’ grade progression should become bound by task mastery, not academic calendars.

Despite the core principals of a standards-based system, there was a gap between accepted definitions and observed practice. For example, many participants in this study defined their

practices as including "standards-based progress," but they were still following academic calendars and awarding credit within the traditional Carnegie unit method. According to the Maine Department of Education's website, a proficiency-based system is one in which "students [are] demonstrating mastery of the knowledge and skills they are expected to learn before they progress to the next lesson, get promoted to the next grade level or receive a diploma" (Maine Department of Education, 2014). However, in several schools and districts in our study, students still moved through grade levels and classes in a traditional manner based on age, time or earned credits, regardless of proficiency levels Student who did not demonstrate proficiency were very often identified for extra support or interventions. There was evidence that students who were struggling were more readily identified and targeted with particular supports than in the traditional system.

Educators in this study expressed concern and discomfort with inconsistent definitions and interpretations seen across schools in Maine. A superintendent shared that he had recently attended a presentation by staff and students in a neighboring district that had identified themselves as having developed a system that required students to demonstrate proficiency in order to earn a high school diploma. The superintendent attending the presentation said, "We are not defining proficiency the same way they are defining proficiency. If we had to implement the practices and policies they have in place, we would opt not to do it." Local autonomy and the realities of what was best for students in practice were important, but as a curriculum coordinator said, "We would like more guidance. Local control is the state's answer for every question and is a cause of frustration for practitioners." Balancing government oversight and local expertise was clearly a challenge.

In an interesting example of a government establishing its role in the education system, the Dutch government introduced "the state steering at a distance" approach in 1985. The state revised their position in overseeing the higher education system to be more of a "catalyst and

coordinator...to enhance autonomy and accountability" (Leisyter, Enders, & deBoer, 2009, p. 118). It appeared that this method of providing guidance, coordination, accountability and autonomy could be welcomed by many districts in this study working to implement a proficiency-based diploma system. A special education director indicated that the state education leaders and policymakers "can help by helping to provide resources; we need lots of professional development on assessments and cognitive complexity to make this paradigm shift." A superintendent said, "We need exemplars and models...delivery models that make sense." It was suggested that schools could benefit from the accumulation of a practitioners' toolbox that may help familiarize educators and administrators with the skills and resources required to transition successfully into a proficiency-based system. However, our data suggest that the acceptance and relevance of such resources was dependent upon local implementation methods and context.

Establishing Common Beliefs and Common Language

Many participants identified the development and communication of common definitions of key elements of proficiency-based education as critical to successful district-level implementation. A middle school administrator summarized this phenomenon simply, saying, "It is all talking the same language." Among the districts included in our study, those that had at least a few years of experience with a proficiency-based approach appeared to have established common vocabulary and definitions of key terms and concepts within their district. In contrast, schools that were in the initial phases of implementation struggled with creating clear communication systems that encompassed the expectations of the new standards. One such school principal said, "We haven't figured out yet how students progress. We've had to tell our staff that we don't have answers for [them]." Giving all invested individuals a common language with which to communicate appeared critical to the success of transitioning to systemic practices, even if those locally common definitions varied from the state-

level or federal-level definitions. Many educators agreed that it was important to invest significant time in "dialogue and decision-making process" to establish a common language among district professionals.

In order to develop this common language, our data suggest that establishing fluency was facilitated by an intentional process of planning and creating a strong vision with a foundation of understanding among school personnel—including faculty and administrators—prior to announcing corresponding curricular changes to parents and community members. When school personnel were adequately prepared with a clearer understanding of the ensuing process—or at least a roadmap of the process—they were able to translate expectations to students and their families more efficiently. One parent said, "I have to give the teaching staff some professional respect. They need to come to agreement on what proficiency means." This preparatory work helped avoid miscommunication and frustration while modeling the on-going nature of building a proficiency-based system. In this process, from legislation to graduation, essential and enduring practices must be established so all stakeholders can build an understanding of the system and how it affects our children. Continual development of community and family support serve as a frame for the professional work being done in school systems and are critical to establishing common goals and language about what is best for all students.

Summary

Implementing a proficiency-based diploma system represents a sea change in the way education is provided for children. The evidence from both phases of this study of Maine schools and school districts indicated that educators and educational leaders are working diligently to fulfill the state mandate. It is clear that all stakeholders share a hope for improving the educational experiences of all children as seen in numerous education reform efforts across the world.

School districts are facing some key challenges in completing this work. While Maine has gone through the process of creating a state policy requiring public school districts to implement a proficiency-based diploma system, this step is not insubstantial and remains to be fulfilled in many states. Many practitioners made it evident in this study that the legislation and precise deadline for implementation was a serious instigator for beginning the work to build these systems. The next steps of local development required core shifts in the learning culture and curricula in many schools. In addition, traditional practices and structures can be barriers to realizing some of the instructional improvements that most directly affect the learning experience of children. These traditions appeared to be slow to change and required some essential understandings about the philosophies and approaches that best served students, which may indicate that some proposed changes are not optimal for all students or developmental levels. Finally, logistical decisions and development of policies and practices regarding student progress, grade reporting, data management, technology and staffing are critical elements to a successful implementation of any proficiency-based education system.

In this work, school districts are seeing some key benefits to implementing a proficiency-based education system as well. Many participants were enthusiastic about increased student

engagement and enhanced student voice. Students, families, teachers and school administrators appreciated a greater collective awareness of each child's academic progress. This reform's emphasis on collaborative professional work highlighted a shift in teaching practice to diminish isolation and provide essential time for educators to work with one another. And, fundamentally, proficiency-based education is a call for all learners to develop critical skills, habits and knowledge to allow them to find success and fulfillment in their future. This underlying philosophy of equity was often a common ground for all stakeholders. These very important discussions are coming to the forefront of many conversations, debates and decisions involved in making this systems change in education. As one education leader said, "It is a lot of hard work...but important work."

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Appendix A: LD 1422

An Act To Prepare Maine People for the Future Economy

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 20-A MRSA §253, sub-§9 is enacted to read:

9. Transition to Proficiency-Based educational system. In order to facilitate the transformation of the public education system to one in which standards are used to guide curriculum and instruction and in which student advancement and graduation are based on student demonstration of proficiency in meeting educational standards, the commissioner may waive or alter any provision of this Title as specified in an approved plan for transitioning to proficiency-based graduation in accordance with section 4722-A as the provision pertains to requiring or prohibiting an action based on the age or grade level of a student. This authority applies to all age-based or grade-based requirements, except that the commissioner may not waive or alter:

A. Requirements imposed by federal law, or imposed by state law in order to comply with federal law, including but not limited to requirements relating to assessment and special education;

B. Compulsory attendance and eligibility to enroll standards; C. Provisions relating to public funding, including tuition rates;

D. Health-related provisions, if advised by health professionals not to alter the requirements; and

E. Provisions of this Title that are not administered by the commissioner, including but not limited to certain provisions relating to institutions of higher education.

The commissioner shall adopt rules to implement this subsection. Rules adopted pursuant to this subsection

before July 1, 2013 are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A. Beginning July 1, 2013, rules adopted by the commissioner pursuant to this subsection are major substantive rules pursuant to Title 5, chapter 375, subchapter 2-A.

Sec. 2. 20-A MRSA §2902, sub-§3, as repealed and replaced by PL 1985, c. 797, §22, is amended to read:

3. Courses required by law. Provide instruction in elementary schools as specified in sections 4701, 4704, 4706 and 4711 and in secondary schools as specified in sections 4701, 4704, 4706, 4722, 4723 and 4724.

Sec. 3. 20-A MRSA §4502, sub-§1, as amended by PL 2001, c. 454, §12, is further amended to read:

1. General requirements. Elementary and secondary schools and school administrative units, including an educational program or school located in or operated by a juvenile correctional facility, shall meet all requirements of the system of learning results as established in section 6209 as well as other requirements of this Title and other statutory requirements applicable to the public schools and basic school approval standards. Each school administrative unit shall prepare and implement a comprehensive education plan that is aligned with the system of learning results, focused on the learning of all students and oriented to continuous improvement. The comprehensive education plan must include a plan for transitioning to proficiency-based graduation in accordance with section 4722-A. This plan must also address all other plans required by the department.

Sec. 4. 20-A MRSA §4502, sub-§6, as repealed and replaced by PL 2001, c. 454, §15, is amended to read:

6. Annual report on comprehensive education plan. The superintendent shall make an annual report of progress on the comprehensive education plan, developed pursuant to subsection 1, to the citizens of the school administrative unit. The school board shall annually review and approve the plan. The superintendent shall certify progress on the plan to the commissioner on an annual basis and shall submit to the commissioner a copy of the minutes of the school board meeting at which the school board reviewed and

approved the plan.

Sec. 5. 20-A MRSA §4502, sub-§8, as enacted by PL 2001, c. 454, §16, is amended to read:

8. Waivers. The commissioner may grant a school administrative unit a waiver of one or more school approval requirements upon receipt of an application from the school administrative unit that includes the basis for the waiver request and a plan to reduce reliance on waivers in subsequent years. Financial hardship is one criterion the commissioner must consider in determining whether to grant a waiver.

A. Financial hardship is one criterion the commissioner must consider in determining whether to grant a waiver.

B. A request to waive the requirement for a transition plan to proficiency-based graduation in accordance with section 4722-A by January 1, 2017 must include specific information about the reason for the waiver request and a date by which the proficiency-based graduation requirement will be met. Any waiver granted by the commissioner under this paragraph must require an annual report to the commissioner on the school administrative unit's progress toward meeting the requirements of section 4722-A. This paragraph is repealed July 1, 2020.

C. The commissioner shall provide a report to the joint standing committee of the Legislature having jurisdiction over education matters by February 1st annually on the number of waivers provided pursuant to paragraph B, including the reasons for the waivers granted. The commissioner shall promptly post the annual report submitted pursuant to this paragraph on the department's publicly accessible website.

This paragraph is repealed July 1, 2020.

Sec. 6. 20-A MRSA §4722, sub-§§7 and 8 are enacted to read:

7. Applicability of requirements; transition to proficiency-based diploma.

Except as provided in section 4722-A, this section applies to the granting of diplomas to secondary school students before January 1, 2017.

8. Repeal. This section is repealed July 1, 2020.

Sec. 7. 20-A MRSA §4722-A is enacted to read: §4722-A. Proficiency-based diploma standards

Beginning January 1, 2017, a diploma indicating graduation from a secondary school must be based on student demonstration of proficiency as described in this section. The commissioner may permit a school administrative unit to award diplomas under this section prior to January 1, 2017 if the commissioner finds that the unit's plan for awarding diplomas meets the criteria for proficiency-based graduation under this section.

1. Requirements for award of diploma. In order to receive a diploma indicating graduation from secondary school, a student must:

A. Demonstrate that the student engaged in educational experiences relating to English language arts, mathematics and science and technology in each year of the student's secondary schooling;

B. Demonstrate proficiency in meeting state standards in all content areas of the system of learning results established under section 6209;

C. Demonstrate proficiency in each of the guiding principles set forth in department rules governing implementation of the system of learning results established pursuant to section 6209; and

D. Meet any other requirements specified by the governing body of the school administrative unit attended by the student.

2. Method of gaining and demonstrating proficiency. Students must be allowed to gain proficiency through multiple pathways, as described in section 4703, and must be allowed to demonstrate proficiency by

presenting multiple types of evidence, including but not limited to teacher-designed or student-designed assessments, portfolios, performance, exhibitions and projects.

3. Exceptions. Notwithstanding subsection 1, a student may be awarded a diploma indicating graduation from a secondary school in the following circumstances.

A. A child with a disability, as defined in section 7001, subsection 1-B, who achieves proficiency as required in subsection 1, as specified by the goals and objectives of the child's individualized education plan, may be awarded a high school diploma.

B. A student who has satisfactorily completed the freshman year in an accredited degree-granting institution of higher education may be eligible to receive a high school diploma from the school the student last attended.

C. A student who experiences education disruption, as described in section 5001-A, subsection 4, paragraph F, who successfully demonstrates proficiency as required in subsection 1 as set forth in the student's school work recognition plan as defined in section 5161 must, with the approval of the commissioner, be awarded a Department of Education diploma as defined in section 5161.

D. A school administrative unit may award a high school diploma to a student who has met the standards set forth in a waiver request that was approved by the commissioner pursuant to section 4502, subsection 8.

E. A person may be awarded a high school diploma, including a posthumous award, if the person or a family member of the person applies to a secondary school and:

(1) The person:

(a) Attended a secondary school in the geographic area now served by the secondary school from which a diploma is requested; or

(b) Resides at the time of application for a diploma in the geographic area served by the secondary school from which a diploma is requested;

(2) The person did not graduate or receive a diploma from a secondary school because the person left secondary school to serve in the Armed Forces and served during the following periods:

(a) World War II, from December 7, 1941 to August 16, 1945;(b) The Korean Conflict; or(c) The Vietnam War era, from February 28, 1961 to May 7, 1975; and

(3) The person received an honorable discharge or a certificate of honorable service from the Armed Forces.

For the purposes of this paragraph, "Armed Forces" means the United States Army, Navy, Air Force, Marine Corps, Coast Guard and the Merchant Marines.

4. Grants; contingent extension of full implementation. During the period of transition to proficiency-based graduation in accordance with this section, the department, if funds are available, shall make annual transition grants to each school administrative unit equal to 1/10 of 1% of the school administrative unit's total cost of education calculated under section 15688, subsection 1 to be used in the manner determined by the school administrative unit to fund the costs of the transition not otherwise subsidized by the State. The date for implementation of the awarding of diplomas based on student demonstration of proficiency as described in this section is extended one year for each year for which transition grants are not made available to a school administrative unit of for which levels of general purpose aid for local schools fall below school year 2012-2013 levels.

Sec. 8. 20-A MRSA §13016, sub-§2, as amended by PL 1991, c. 622, Pt. X, §8, is further amended to read:

2. Professional teacher certificates. A professional teacher certificate may be renewed for 5-year periods in accordance with state board rules, which must require, at a minimum, that the teacher complete at least 6 hours of professional or academic study, or in-service training designed to improve the performance of the

teacher in the field for which the teacher holds an endorsement, or in a related subject area, or to improve the teacher's knowledge of, and skill in, Proficiency-Based education. Teachers who desire to qualify for a master teacher certificate must coordinate their continuing professional education with the requirements of an applicable teacher action plan.

Sec. 9. Development of Proficiency-Based system tools. The Department of Education shall coordinate the development of standards, assessments and assessment criteria needed to enable school administrative units to implement a Proficiency-Based system of education.

1. The Department of Education shall convene a working group to develop standards, assessments and assessment criteria for determining student proficiency in the guiding principles as outlined in department rule that are required for secondary school graduation beginning January 1, 2017. The working group must include representatives from school administrative units currently developing those standards, assessments and assessment criteria. The working group shall develop draft standards, assessments and assessment criteria for review not later than July 1, 2013.

2. The Department of Education shall maintain a publicly accessible website to serve as a resource for schools implementing Proficiency-Based education systems. The website must:

A. Include information about the experience of school administrative units that are engaged in transforming their schools to Proficiency-Based systems, including schools involved in the Maine Cohort for Customized Learning and the League of Innovative Schools of the New England Secondary School Consortium;

B. Include a repository of model materials, including but not limited to report cards and transcripts, assessment methodologies and assessment criteria for all content areas of the system of learning results;

C. Be designed to facilitate communication among educators and administrators on the transformation of schools to Proficiency-Based education systems; and

D. Provide information for school administrative units seeking to create regional capacity to implement Proficiency-Based education systems, including information about applying for a grant from the Fund for the Efficient Delivery of Educational Services established pursuant to the Maine Revised Statutes, Title 20-A, section 2651 and information about school administrative units that are currently engaging in regional cooperation in delivering education.

Sec. 10. Development of technical assistance plan. The Department of Education shall develop a technical assistance plan that includes a timeline with implementation dates for the resources and initiatives the department will provide to enable school administrative units to transition to a Proficiency-Based education system. The technical assistance plan must include but is not limited to the Proficiency-Based system tools described in section 9, other resources related to model policies and best practices, professional development and training and other initiatives that the department determines will be necessary for school administrative units to transform their schools to a Proficiency-Based education system. The technical assistance plan must be presented to the joint standing committee of the Legislature having jurisdiction over education matters for review by March 1, 2013. The joint standing committee may introduce a bill to the First Regular Session of the 126th Legislature related to the department's activities described in this section and section 9.

Sec. 11. Amendment of age-based and grade-based statutory provisions.

The Department of Education shall submit a bill to the First Regular Session of the 126th Legislature to amend provisions of the Maine Revised Statutes, Title 20-A that unreasonably restrict the ability of school administrative units to advance or graduate students based on demonstrated proficiency in education standards. The bill may include an amendment to the rule making.

Appendix B: Case Study Schools & School Districts

Sample Case Study Schools - Phase I: 2012-2013			
2013 Free/Reduced Lunch Rate	*Grade Level*	*2013 School Student Enrollment*	*Length of Reforms*
53	PK-4	270	3 years
60	K-5	260	1 years
45	3-5	200	2 years
36	5-8	550	4 years
45	6-8	345	2 years
66	6-8	150	4 years
45	9-12	950	2 years
38	9-12	345	3 years
28	9-12	525	10+ years

Sample Case Study School Districts - Phase II: 2013-2014		
2013 Free/Reduced Lunch Rate	*2013 District Student Enrollment*	*Length of Reforms*
45	1,440	2 years
58	1,480	3 years
37	1,750	15 years
22	2,149	1 year
41	2,220	5 years
24	2,693	0 years
41	3,275	2 years
52	3,664	3 years

Appendix C: Implementation Survey

Standards-Based Education in Maine

The following survey is part of a study commissioned by the Legislature to investigate the development, costs and impacts of implementing standards-based education under LD1422 in Maine. The survey should take about 10-15 minutes to complete. Thank you for taking the time to do so. All responses are confidential, and results will only be reported in the aggregate.

1. If you are a district-level employee, write in your district's name. If you are a school-level employee, write in your school's name:

2. Grade Levels Served:

Other (please specify)

3. Are you a school-based or district-based administrator or educator? What is your job title / role?

Your Job Title / Role:

4. Today's Date

Date MM / DD / YYYY

INSTRUCTIONS: Please select the description that best fits your school's current status in developing the corresponding component of Standards-Based Education. Components have been compiled from various sources as critical characteristics and actions for implementing Standards-Based Education.

Standards-Based Education in Maine

*5. How many years ago did your school/district begin the process of adopting Standards-Based Education practices and policies?

- ◯ less than one year ago
- ◯ one year ago
- ◯ two years ago
- ◯ three years ago
- ◯ four years ago
- ◯ five years ago
- ◯ six years ago
- ◯ seven years ago
- ◯ eight years ago
- ◯ nine years ago
- ◯ ten or more years ago

Standards-Based Education in Maine

6. In terms of the CULTURE AND CONTEXT FOR CHANGE:

	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Unsure
a. Our school staff believes that all children have the capacity to achieve at high levels, with some exceptions and accommodations governed by special education needs.	◯	◯	◯	◯	◯	◯	◯
b. Our school staff believes that all standards apply to all students, with some exceptions and accommodations governed by special education needs.	◯	◯	◯	◯	◯	◯	◯
c. Our community believes that all students can learn.	◯	◯	◯	◯	◯	◯	◯
d. Our school staff supports the need for change.	◯	◯	◯	◯	◯	◯	◯
e. Our school community supports the need for change.	◯	◯	◯	◯	◯	◯	◯
f. Our school staff believes students can make informed choices about their own education.	◯	◯	◯	◯	◯	◯	◯
g. There is community support for change to standards-based education.	◯	◯	◯	◯	◯	◯	◯
h. In general, there are high aspirations for post-secondary learning.	◯	◯	◯	◯	◯	◯	◯

Comments?

Standards-Based Education in Maine

7. In terms of establishing a VISION AND GOALS FOR STANDARDS-BASED EDUCATION, our school has:

	Not Initiated	Beginning Development	Partially Developed	Strongly Developed	Thoroughly Established	Unsure
a. Developed a shared school and community vision for standards-based education (SBE).	◯	◯	◯	◯	◯	◯
b. Written a common vision/mission statement for SBE.	◯	◯	◯	◯	◯	◯
c. Defined explicit learning and systemic goals for SBE.	◯	◯	◯	◯	◯	◯
d. Outlined specific methods for supporting logistical changes required by SBE.	◯	◯	◯	◯	◯	◯

Comments?

8. In terms of establishing STANDARDS-BASED PROFESSIONAL DEVELOPMENT, our school has:

	Not Initiated	Beginning Development	Partially Developed	Strongly Developed	Thoroughly Established	Unsure
a. Developed short- and long-range professional development plans aligned with SBE vision and goals.	◯	◯	◯	◯	◯	◯
b. Engaged professional staff in research review and data analysis relevant to SBE vision and goals.	◯	◯	◯	◯	◯	◯
c. Provided opportunities for educators to collaborate around work related to SBE.	◯	◯	◯	◯	◯	◯
d. Modified the teacher evaluation system to reflect SBE.	◯	◯	◯	◯	◯	◯

Comments?

Standards-Based Education in Maine

9. In terms of DEFINING COMMON CONTENT AND PERFORMANCE STANDARDS, our school has:

	Not Initiated	Beginning Development	Partially Developed	Strongly Developed	Thoroughly Established	Unsure
a. Developed/Identified common standards across the same courses and/or grade levels taught by different teachers.	◯	◯	◯	◯	◯	◯
b. Developed/Identified cross-curricular content knowledge standards common across subject areas.	◯	◯	◯	◯	◯	◯
c. Developed/Identified common, cross-curricular standards for core skills (reading, writing, numeracy, higher order thinking).	◯	◯	◯	◯	◯	◯
d. Developed/Identified behavior ("non-cognitive," work ethic, or habits of practice) standards.	◯	◯	◯	◯	◯	◯
e. Developed standards and/or levels of proficiency for the Guiding Principles.	◯	◯	◯	◯	◯	◯
f. Developed/identified a common language for a taxonomy of learning.	◯	◯	◯	◯	◯	◯
g. Defined benchmarks of proficiency at key intellectual development stages.	◯	◯	◯	◯	◯	◯

Comments?

Standards-Based Education in Maine

10. In terms of adopting STANDARDS-BASED STRATEGIES WITHIN CURRICULUM, INSTRUCTION, ASSESSMENT & REPORTING PRACTICES, our school has:

	Not Initiated	Beginning Development	Partially Developed	Strongly Developed	Thoroughly Established	Unsure
a. Created curriculum scope and sequence options aligned with standards.	◯	◯	◯	◯	◯	◯
b. Identified standards-based criteria and method of acceleration for students exceeding standards.	◯	◯	◯	◯	◯	◯
c. Identified standards-based criteria and method of intervention for students not meeting standards.	◯	◯	◯	◯	◯	◯
d. Adapted instructional practices based on research analysis, standards and student performance.	◯	◯	◯	◯	◯	◯
e. Created/Identified formative assessments that show student proficiency levels in standards.	◯	◯	◯	◯	◯	◯
f. Created/Identified summative assessments that determine student proficiency levels in standards.	◯	◯	◯	◯	◯	◯
g. Developed student achievement reports that identify student proficiency levels on standards.	◯	◯	◯	◯	◯	◯

Comments?

Standards-Based Education in Maine

11. In terms of providing STUDENT-CENTERED LEARNING OPPORTUNITIES, our school:

	Not Initiated	Beginning Development	Partially Developed	Strongly Developed	Thoroughly Established	Unsure
a. Provides multiple pathways and multiple opportunities for students to demonstrate proficiency of standards.	◯	◯	◯	◯	◯	◯
b. Provides students voice and choice in the demonstration of their learning.	◯	◯	◯	◯	◯	◯
c. Provides learning opportunities that extend beyond the traditional school building.	◯	◯	◯	◯	◯	◯
d. Provides learning a opportunities that extend beyond the traditional school dy .	◯	◯	◯	◯	◯	◯
e. Provides opportunities for "anytime, anywhere" learning.	◯	◯	◯	◯	◯	◯

Comments?

Standards-Based Education in Maine

12. In terms of SYSTEM-WIDE PROFICIENCY-BASED PROGRESSION POLICIES & PRACTICES, our school has established:

	Not Initiated	Beginning Development	Partially Developed	Strongly Developed	Thoroughly Established	Unsure
a. Accessible intervention systems available within the school dy.	◯	◯	◯	◯	◯	◯
b. Accessible intervention systems available beyond the school day.	◯	◯	◯	◯	◯	◯
c. Progression criteria and standards that are published and clear to all school, parent, and community stakeholders.	◯	◯	◯	◯	◯	◯
d. A system of advancement that is based on student demonstration of proficiency or above on required standards.	◯	◯	◯	◯	◯	◯
e. Criteria for graduation and/or certification based on student demonstration of proficiency or above on required standards.	◯	◯	◯	◯	◯	◯
f. A system that allows students to avance at their own pace.	◯	◯	◯	◯	◯	◯
g. Options for remediation, as needed, to help students meet standards in a timely manner.	◯	◯	◯	◯	◯	◯
h. Options for acceleration to help students advance to the next level when they are ready.	◯	◯	◯	◯	◯	◯
i. A system for tracking student progress on specific learning goals.	◯	◯	◯	◯	◯	◯
j. A Learning Management System (LMS) that allows anytime access to learning targets and materials.	◯	◯	◯	◯	◯	◯
k. A technology system that is used to support standards-based practices.	◯	◯	◯	◯	◯	◯

Comments?

Standards-Based Education in Maine

13. In terms of IMPACT OF SBE ON STUDENT LEARNING OPPORTUNITIES & PERFORMANCE, our school has seen evidence of:

	Not Evident	Some Evidence	Substantial Evidence	Very Strong Evidence	Unsure
a. Increased student engagement.	◯	◯	◯	◯	◯
b. Increased educator engagement.	◯	◯	◯	◯	◯
c. Improved s udent performance on standardized assessments.	◯	◯	◯	◯	◯
d. Improved student performance on local assessments.	◯	◯	◯	◯	◯
e. Higher post-secondary education aspirations.	◯	◯	◯	◯	◯
f. Higher rates of post-secondary enrollment.	◯	◯	◯	◯	◯
g. Increased college- and career-readiness.	◯	◯	◯	◯	◯
h. Greater community investment in education.	◯	◯	◯	◯	◯
i. Increased involvement in local and world citizenship.	◯	◯	◯	◯	◯

Comments?

14. What are the ***barriers***, if any, to successful implementation of standards-based education in your work? What ***supports and resources*** (time, money, expertise) are needed and would be helpful as your district/school implements SBE?

15. General Comments (re: standards-based education in Maine, this survey, etc.):

Thank you for participating in this survey! If you have any questions or would like further information, please contact our office, the Center for Education Policy, Applied Research and Evaluation at the University of Southern Maine (207.228.8117).