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Graduation Policies in a Public High School (A Case Study)

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A faded background image of a graduation ceremony. In the foreground, a large crowd of graduates in blue gowns is visible, many with their arms raised. Above them, numerous black graduation caps are seen flying through the air, creating a sense of celebration and movement. The background shows some greenery and a clear sky.

**Proficiency-based High School Diploma Systems in Maine:
Implementing a Standards-based System
and
Proficiency-based Graduation Policies in a Public High School
(A Case Study)**

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Table of Contents

Executive Summary	i
Context: National Standards-based Education	1
Context: Proficiency-based Education Policy & Research in Maine	2
Review of Literature	9
Evaluating the Rigor of Academic Standards	9
Proficiency-based Graduation Policies in Other States	10
Implementing Education Policy	12
Methodology	15
Sample	16
Data Collection & Analysis	16
Findings	17
A Solid Foundation	18
A History of Standards-based Education	19
Professional Development & Collective Work	20
Defining Proficiency	21
High School Graduation Requirements	23
Common Assessments	24
Systems of Student Support	26
Conclusions	29
Recommendations	30
References	32
Appendix A: Interview Protocol	37
Appendix B: Sample Common Assessment Standards-based Rubric	39
Appendix C: Sample Content Area Standards	40
Appendix D: Sample Common Assessment Task Description	42
Appendix E: Sample Content Scope and Sequence	44
Appendix F: Sample Course Curriculum Framework	47

Executive Summary

In the 127th Legislative Session, *An Act to Implement Certain Recommendations of the Maine Proficiency Education Council* (S.P. 660 - L.D. 1627) was passed into law as Chapter 489. This amended the chaptered law passed in 2012, *An Act to Prepare Maine People for the Future Economy* (S.P.439 - L.D.1422), requiring Maine school districts to implement proficiency-based diploma requirements and standards-based education systems.

Beginning in 2012, the Maine Legislature's Joint Standing Committee on Education and Cultural Affairs has requested that the Maine Education Policy Research Institute's (MEPRI) work plan include studies designed to compile data, examine progress and explore impacts regarding implementation of this state policy within school districts across the state. This work has furthered the understanding of these proficiency-based diploma policies within the state and global context as well as the implementation in local schools and school administrative units.

In 2016-2017, Phase V of this study shifted from the general perceptions and practices of schools and districts implementing proficiency-based high school diploma systems (as explored in Phases I-IV) to the examination of the policy implications within key programs, contexts and populations. This report shares research conducted in a case study of one higher performing high school to examine the practices, challenges and facilitators of implementing a standards-based curriculum and proficiency-based diploma systems.

Findings indicate that the case study school was building upon and allocating existing resources as well as developing additional structures to create a proficiency-based system that they believed would both benefit students and meet the requirements of the law. This work was also described as being still in progress as well as having certain challenges as interpretation and comprehension of the state law and forthcoming regulations continue to inform educators and communities. However, essential components to this system were identified as the recognition of pre-existing resources and work, professional time for collective development, an equitable system of common standards-based assessments, and robust structures of student support. These components closely reflected elements perceived by research participants as necessary to build a successful proficiency-based high school diploma system in prior research examining this education policy in Maine. The inter-related nature of these components as systemic improvement and an equitable educational approach also affirm findings from existing research in Maine and across the nation.

Proficiency-based High School Diploma Systems in Maine: Implementing a Standards-based System and Proficiency-based Graduation Policies in a Public High School (A Case Study)

Maine Education Policy Research Institute

Context: National Standards-based Education

Although present in education practice and theory for decades, the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983) provided standards-based education greater traction in U.S. public schools. In the following two decades, several states (e.g., California, Kentucky, Maryland, Massachusetts, North Carolina and Texas) and professional organizations (e.g., American Association for Advancement of Science; National Council of Teachers of English; National Council of Teachers of Mathematics) began integrating work involving standards-based education methods. In 1994, *Goals 2000: Educate America Act* (PL 103-227) was developed to assist states in creating statewide academic standards and created momentum for the nationwide movement towards standards-based education to obtain related funding (Armour-Garb, 2007; Cross, 2004).

In 2001, the No Child Left Behind (NCLB) Act was passed. Using the 1965 *Elementary and Secondary Education Act* (ESEA) as a precursor and receiving bipartisan support, NCLB embraced a standards-based accountability approach by requiring annual standardized testing and Adequate Yearly Progress for schools to receive Title I funding. Since NCLB was signed into law, many school districts across the U.S. have worked to implement standards-based education. Nationally, forty-six states and the District of Columbia have adopted the Common Core State Standards (CCSS) (Norton, Bellinger & Ash, 2016), which identify content area skills and knowledge students should be able to demonstrate in Mathematics and English Language Arts so as to be college and career ready by the completion of high school.

Correspondingly, a number of national evaluations of CCSS have examined the implementation and impact of standards-based education on student outcomes. The findings suggest that many states have varied definitions of proficiency and dissimilar standards (Carmichael et al., 2010; Jennings & Bearak, 2014; Lee, Liu, Amo & Wang, 2014; Phillips,

2016; Porter, Polikoff & Smithson, 2009). A lack of common operational definitions may complicate the attempt to draw causal conclusions regarding the "success" of standards-based education from related literature as well as local efforts to analyze internal data or implement experimental interventions with fidelity. However, it is evident that the interrelated and contextual nature of implementing related standards-based policies must be recognized in order to better understand intended and unintended impacts (Honig, 2006; Young & Lewis, 2015).

While research evidence from Maine supports findings from the national literature which emphasize that changes must be implemented at the systems-level in order to yield the intended results of increased college and career readiness (Chrispeels & Gonzalez, 2006; Noell & Gansle, 2009; Stump & Silvernail, 2014), the contexts of schooling cumulatively inform students' real experiences across their classrooms, institutions, districts and communities, with each level working concurrently to put these reforms into practice.

Context: Proficiency-based Education Policy & Research in Maine

Culminating standards-based work from earlier decades, the *Maine Learning Results* were adopted by the Maine Legislature as statewide K-12 education standards in 1997 with the passing of *Resolve, Regarding Legislative Review of Chapter 131: Rules for Learning Results, a Major Substantive Rule of the Department of Education* (H.P. 1093 - L.D. 1536). These standards, developed by Maine educators and educational leaders, included eight academic content areas as well as "Guiding Principles" that reflected expectations of high school graduates to demonstrate civic engagement in addition to certain habits of work and mind. Rule Chapter 131 for the Maine Department of Education (MDOE) described the content standards to be in effect starting in 2012 as "College and Career Readiness Anchor Standards" for the included content areas. School districts aligned curriculum, local assessments and professional development to these standards in various degrees across the state during this time.

The *Maine Learning Results: Parameters for Essential Instruction* were reviewed and then updated in 2007, with critical changes to content areas standards and the guiding principles. At that time, legislation was passed requiring the annual state assessments to reflect students' proficiency levels as defined by the updated standards in Mathematics, Reading, and Science. In addition, the updated *Maine Learning Results* were formally integrated within state policies related to school funding and school accountability measures. Although a statewide attempt to require a common local assessment system based on the *Maine Learning Results* standards ended

unsuccessfully in this same year, practitioners had dedicated significant time across the past decades discussing standards with students as well as building standards-based curricula and assessments (Leiberman & Miller, 2011; Stump, Silvernail, Fallona & Moran Gunn, 2013; Stump & Silvernail, 2014). In 2011, Maine adopted the Common Core State Standards in Mathematics and English Language Arts. Although state law and the Maine Constitution prohibit a mandatory statewide curriculum, the Maine Department of Education (MDOE) encouraged and supported local efforts to align curricula and assessments to the state-developed *Maine Learning Results*.

In May 2012, the 125th Maine Legislature passed the chaptered law, *An Act to Prepare Maine People for the Future Economy* (S.P.439 - L.D.1422). Within this mandate, Subsection (§) 4722-A describes the required components of the proficiency-based high school diploma, which all public Maine school districts were expected to incorporate by 2018, replacing the previous version of Title 20-A, Part 3, Chapter 207-A, Subchapter 3, Subsection 4722 including time-based subject requirements. In 2015, the MDOE granted extensions postponing the deadline for full implementation into 2020 for many public school districts in the state. Again, although curriculum, teaching practices, local assessments and learning materials are determined entirely at the district or school level, this state law required school administrative units to implement high school graduation requirements that were dependent upon students demonstrating proficiency in the eight content areas and guiding principles of the *Maine Learning Results*. In the 127th Legislative Session, *An Act to Implement Certain Recommendations of the Maine Proficiency Education Council* (S.P. 660 - L.D. 1627) was passed into law in Chapter 489. This more recent legislation amended the original 2012 proficiency-based education law in several ways, including:

- Adapting the timeline for mandated phase-in of §4722-A, local high school diploma requirements reflecting student demonstration of proficiency replacing previous §4722, starting in 2020-2021 (with four core content areas required) and completing implementation in 2024-2025 (with eight content areas and guiding principles required);
- Defining expectations of students with disabilities to "become eligible for a diploma by demonstrating proficiency in state standards established in the system of learning results through performance tasks and accommodations that maintain the integrity of

the standards as specified in the student's individualized education program by the student's individualized education program team..."

- Requiring that schools must maintain a "permanent academic transcript" for each student, on which a school administrative unit must certify each student's achievement of proficiency in each content area and the guiding principles as well as report content area proficiency certifications to the Maine Department of Education;
- Requiring the Commissioner adopt or amend rules by January 2, 2017 to "allow local flexibility and innovation" and "identify the manner in which the opportunities for learning in multiple pathways of career and technical education programs may be used to satisfy certain components of the system;"
- Amending prior language of "*student* shall study" in all eight content areas to say that the *school* "shall ensure sufficient opportunity and capacity through multiple pathways for all students to study and achieve proficiency" in the required eight content areas.
- Allowing exception to the high school graduation requirements for students completing a CTE program of studies and earning specified CTE credentials, omitting the requirement of "educational experiences" in ELA, mathematics and science and reducing the requirement of demonstrating proficiency in all eight content areas to six content areas, including ELA, math, social studies and three additional content areas of the student's choice.

Maine's education history reveals a strong tradition of standards-based education with on-going, complex implementation occurring in schools and classrooms across the state reinforced by substantial investment and support from various local business organizations and education reform agencies. This work has been underscored by the proficiency-based high school diploma systems mandated and updated in the most recent state legislation. To further understand these proficiency-based diploma policies within the state and global context as well as the implementation work in local schools and school administrative units, the Maine Legislature's Joint Standing Committee on Education and Cultural Affairs has requested that the Maine Education Policy Research Institute's (MEPRI) work plan for the past five years include studies designed to compile data, examine progress and explore impacts regarding implementation of this state policy within local institutions and school districts across the state. MEPRI is a

nonpartisan research institute funded jointly by the Maine State Legislature and the University of Maine System, with a mandate to collect and analyze education information and perform targeted education research for the Legislature.

A summary of each phase of this ongoing study's findings is presented below. Detailed evidence from this year's targeted research regarding implications for student populations and programming within special education and career technical education as part of Phase V work is discussed in the "Findings" sections of this report.

Phase I: Preliminary Implementation of Proficiency-based Diploma Systems in Maine (A School Level Analysis)

In 2012, MEPRI conducted an initial study that examined the preliminary development, costs and impacts of standards-based *school* programs being implemented in Maine. Nine public institutions, including those representing various configurations of grades PK-12, served as case studies in which this approach was being practiced in some or all classrooms.

This study revealed that Maine educators and educational leaders were working diligently to embrace and apply the underlying philosophies of standards-based education as well as build systems applicable to their local context. Institutions beyond the initial phase of shifting belief structures and school culture were grappling with the logistics of implementing some of the changes they saw as necessary within curriculum, scheduling, staffing and reporting achievement. Further discussion of the findings from Phase I of this study of Maine public institutions may be found in the report, [*Preliminary Implementation of Maine's Proficiency-Based Diploma Program*](#), or available at <mepri.maine.edu>.

Phase II: Implementation of Proficiency-Based Diploma Systems in Maine (A District Level Analysis)

After sharing the findings and recommendations of Phase I with the Maine Legislature's Joint Standing Committee on Education and Cultural Affairs and in the publication of the report mentioned above, a second year of the study was commissioned in 2013 to focus on school *districts* that were in the process of systemically implementing S.P.439-L.D.1422. Phase II examined the systemic benefits and challenges of putting this state law into practice. Findings revealed that district leaders were working attentively to implement these policies with fidelity.

District leaders also indicated that a key goal of their implementation was developing practices and policies that were beneficial to all students in their district even when practitioners were faced with challenges of creating common definitions, developing practical learning management systems and finding resources to support their work. Further discussion of district implementation of the law examined in Phase II of this study may be found in the report, [*Implementation of a Proficiency-Based Diploma System in Maine: Phase II - District Level Analysis*](#), available at <mepri.maine.edu>.

***Phase III: Implementing Proficiency-Based Diploma Systems in Maine
(An Analysis of District-Level High School Graduation Policies)***

In 2014, the MDOE required public school districts to submit a Confirmation of Readiness or an Extension Application outlining the policies and practices in place and planned for implementation of a proficiency-based diploma system. Subsequently, the MDOE provided a response letter with feedback and recommended action to each district as well as conducted several in-person district visits. Maine's law S.P.439-L.D.1422 required students to demonstrate proficiency in eight content areas (English Language Arts, Mathematics, Science and Technology, Social Studies, Health Education and Physical Education, Visual and Performing Arts, Career and Education Development as well as World Languages) in order to earn a high school diploma. This third phase of the MEPRI study focused on *high school graduation requirements* in the content areas of English Language Arts (ELA), Mathematics and Science. Many of the district policies and proposals were intended to eventually apply to all eight mandated content areas. However, ELA, Mathematics and Science were the areas with the most substantial level of implementation and established policy development within local districts at this point.

In Phase III of the study, a comprehensive examination of the application documents, practices, policies and standards of several case study districts provided insights into the development of local high school graduation policies aligned with Maine's proficiency-based diploma legislation. In addition, high school administrators and district leaders in case study districts were interviewed and discussed the continued impact of this state policy on their local district and institutions. Participants indicated that building a proficiency-based diploma system had encouraged more professional collaboration in institutions, improved transparency in

communication about student achievement, and had inspired school improvement efforts in some districts. The data revealed that districts were working diligently to align PK-12 curricula and policies to their local standards as well as developing common language and expectations within the district. However, comparing the academic content standards and definitions of proficiency from various school districts across the state highlighted many practices and policies that were not common statewide. Implementing this state policy appeared to require substantial professional work. School and district administrators suggested that they wanted greater clarity and consistency from the state level with regard to the required components of the law. But, local stakeholders also adamantly supported the retention of local control over defining proficiency benchmarks and developing standards that were perceived as accessible and relevant to their student population. Further discussion of high school graduation policies examined in Phase III of this study may be found in the report, [*Proficiency-based Diploma Systems in Maine: Implementing District-level High School Graduation Policies \(Phase III Technical Policy Report\)*](#), available at <mepri.maine.edu>.

***Phase IV: Implementing Proficiency-Based Diploma Systems in Maine
(A Longitudinal and Updated District Level Analysis)***

Phase IV of this study collected data from qualitative interviews and document analysis in six case study school *districts* in 2015. Three of these districts had been involved in at least one year of Phase I-III of this study, allowing for exploration of ongoing implementation practices and comparing perceived challenges and benefits from initial implementation to later stages. School districts were still at various stages of implementation and utilizing proficiency benchmarks and language to describe content standards that were varied across the state yet increasingly common within a district. Findings from Phase IV suggested that school districts made great strides and were continuing work to improve interventions to support students who did not meet the standards. Where these proficiency-based diploma systems had been enacted, increased communication and strategies for remediation were reported as advancing student performance and contributing to an enhanced culture of learning. This work encompassed increased collaboration among teachers, families and leaders surrounding students' progress, and many educators spoke of the benefits of "breaking down the walls" of the teaching profession. School and district administrators described public relations and systems-wide strategies that

facilitated communication within their organizations and the community at large as well as the challenges of implementing this state mandate.

Further discussion of impacts of implementation examined in Phase IV of this study may be found in the report, [*Proficiency-based High School Diploma Systems in Maine: Local Implementation of State Standards-based Policy*](http://mepri.maine.edu), available at <mepri.maine.edu>.

***Phase V: Implementing Proficiency-Based Diploma Systems in Maine
(Implications for College and Career Access, Special Education, Career and Technical Education, and High School Graduation Standards)***

In 2016-2017, Phase V of this study shifted from the general perceptions and practices of institutions and districts implementing proficiency-based high school diploma systems to the examination of the policy implications within key programs, contexts and populations. Document review and interviews were conducted with *college* admissions' personnel to gather data regarding alignment of proficiency-based diploma systems and college eligibility and entry requirements. In addition, leaders and representative personnel from and Maine businesses and the U.S. military were interviewed to identify postsecondary *career* entry requirements and attributes of high quality workers. Another area of inquiry in this phase of the study included analysis of data from interviews with leaders and educators in *Special Education* to examine the perceived challenges, benefits and impacts of this diploma policy on students with identified disabilities and special education programming provided by Maine's public PK-12 school districts. In addition, qualitative case studies of a sample of Maine *Career and Technical Education* centers and regional vocational programs were conducted. Finally, a single school district case study was incorporated into this phase of the research to closely examine Maine public educators' and school administrators' interpretations and perceptions of establishing standards and *defining proficiency* levels in content areas and developing district-level policies for proficiency-based high school graduation policies.

Therefore, Phase V of this study examining implementation of Maine's proficiency-based high school diploma policy explores several facets of the immediate and wider contexts of schooling in a series of three reports. This report focuses on a case study of one higher performing high school to examine the practices, challenges and facilitators of implementing a standards-based curriculum and proficiency-based diploma systems. This research examines the

process and products guiding the breadth and rigor of school district content area requirements for earning a proficiency-based high school diploma.

Review of Literature

Evaluating the Rigor of Academic Standards

There are several research methodologies that could be followed to identify the level of validity or reliability or alignment or relationship to student achievement with regard to an adopted set of academic standards. The Fordham Institute released one such report sharing the findings of analysis examining the level of rigor in each set of state standards as well as the Common Core State Standards (Carmichael et al., 2010). This study was conducted by three Principal Investigator researchers and four assisting researchers over approximately three years reflecting a multi-million dollar project. In consideration of conducting such examination of the local school district academic standards adopted across the state of Maine, it should be noted that prior research has indicated that most districts have implemented standards with some unique language or grade-level correlations. Therefore, each of the state's approximately 120 school districts would need to be individually included in any such analysis, thereby more than doubling the cost of replicating a study similar to that completed by the Fordham Insitutute. In addition, past research in Maine schools and districts (Stump, Doykos & Fallona, 2016; Stump & Silvernail, 2015) has suggested that these local standards, even when established in policy, were "dynamic" and "may change again," thereby making many of the findings possibly obsolete within a few years' time.

The reason for the complicated nature of such research can be found within the variety of methods for conducting this research. One approach would include **psychometric research, which is the quantitative examination of an individual's demonstration of knowledge, ability or attitudes using standardized assessments**. Within this type of analysis, quasi-experimental, quantitative or mixed methods can be used to examine the relationship between outcomes (student achievement or teacher/leader evaluations) and the established standards embedded within a standardized assessment tested for reliability and validity. In similar research using this methodology to analyze state-level academic standards, findings suggested that there was **no statistically significant link between the quality or rigor of standards and actual**

student performance on assessments (Whitehurst, 2009). For example, a higher performing and lower performing school district may have adopted local graduation standards with essentially identical language, suggesting that the students' achievement was caused by factors other than the standards. Results vary also depending upon the assessment selected for analysis. State assessments have been found to reflect much higher rates of reported student proficiency than the National Assessment of Educational Progress (NAEP) (Fuller et al., 2006; Peterson & Hess, 2006), and "proficient on NAEP means competency over challenging subject matter...not the same thing as being 'on grade level'" (Loveless, 2016). But, **longitudinal analyses could be used to explain different trends of outcomes in relation to the level of alignment to state-adopted standards** (Carnoy & Loeb, 2002; Dee & Jacob, 2011). As is often the case in social science fields of research, such as education, it is suggested that student outcomes reflect an array of causes, which may include school characteristics such as standards, assessments, accountability systems, instruction, and graduation requirements.

Another approach to exploring the rigor of standards can be seen in evaluation research. The purpose of the evaluation would be a key guide: do you want to examine the alignment between standards and curriculum/instruction or establish a system of accountability comparing the language of the system of standards to student achievement? **Depending upon the guiding purpose, tests of criterion or curricular validity could explore the level of fidelity in implementation through content analysis.** For example, a Brown Center Report on American Education (Loveless, 2008) concluded that "NAEP math...content is too easy, items are posed in a manner that makes them difficult, and cut scores for passing are too high" (p.12). Evaluation research could also review curriculum and observe instruction to identify connections to and variation from standards interpretation. Or, reliability could be tested with pilot field tests of assessment items incorporating the standards with multiple scorers to compare results as well as analyze individual items. However, these are multi-year, multi-researcher, multi-million dollar studies if conducted with the multiple standards evident in Maine's 120 school districts.

Proficiency-based Graduation Policies in Other States

Variation in standards is not a situation unique to Maine. Nationally, forty-six states and the District of Columbia adopted the Common Core State Standards (CCSS). However, "eight states have officially repealed or withdrawn and twenty-one states have finalized...or [have] processes underway" to revise the CCSS used as their state standards (Norton, Bellinger & Ash,

2016). Achieve, Inc. representatives have said, "States who adopt the Common Core State Standards (CCSS) are expected to adopt them in their entirety. While states will not be considered to have adopted the Common Core if any individual standard is left out, states are allowed to augment the standards with an additional 15% of content that a state feels is imperative" (2010). So, current identification of the exact number of states utilizing CCSS but not fully adopting them may vary depending on the level of revision or augmentation.

Regardless of the standards selected for state adoption, multiple states have standards-based requirements or assessments as was mandated under *No Child Left Behind*. This emphasis on standards-based assessment and accountability measures contributed to the passage of legislation encouraging movement towards proficiency-based or competency-based education approaches in many states or development of related policies by state boards of education. Seven states (AK, AZ, GA, IA, OH, OR, UT) have policies **allowing flexibility** in local high school graduation policies to incorporate proficiency-based (a.k.a. "competency-based" or "mastery-based") in addition to or in place of traditional seat-time graduation requirements but not mandating the change to proficiency-based requirements statewide. Two states (FL & IL) have state-funded **pilots** involving proficiency-based assessment or graduation policies in select school districts. One state (Idaho) has **dedicated funds** and resources to its department of education to develop a proficiency-based system. Two states (NH & RI) have policies that require high schools to conduct proficiency-based **assessment practices** at the school or course level. New York has high school graduation requirements that are aligned with demonstrating proficiency on the **state assessments**.

Louisiana has multiple traditional pathways to earning a diploma that include required unit (credit) completion as well as achievement on state assessments. One of these pathways, Jump Start Act 833 Alternative Pathway, does allow students with disabilities the option of having the individual student's IEP team determine "appropriate exit goals, credentials, and individual performance criteria for classroom and [state] assessments the student must meet in order to achieve the standard diploma requirements" (Louisiana Department of Education, 2017) as established in the state statute *Act 833* (formerly H.B. 1015, Regular Session 2014). Officials from the U.S. Department of Education raised "significant concerns" with Louisiana's law. A letter of guidance to Louisiana schools chief (U.S. Department of Education, 2015) stated that students with disabilities must continue to be required to "meet the academic content standards

that are applicable to all other students in the [local] jurisdiction," but local Louisiana school districts continue to implement the state law.

Vermont's State Board of Education recently adopted the statewide *Education Quality Standards* policy requiring all public high schools' "graduation requirements be rooted in demonstrations of student proficiency" in locally-determined standards including five content areas as well as "global citizenship" and "transferable skills" instead of seat-time (VDOE, 2017) for the graduating classes of 2020 and beyond. There are time-based requirements for physical education classes and physical activity options. Vermont's legislature also passed a proficiency-based high school graduation statute indicating that schools must also ensure all students in grades 7-12 have a Personalized Learning Plan (PLP) (16 V.S.A. §941) describing the individual student's pathway to attain a proficiency-based high school diploma. The PLP does not supplant an IEP, and a guidance document indicates that "students eligible to receive special education services shall meet the same graduation requirements as non-disabled peers in an accommodated and/or modified manner" (State of Vermont, Agency of Education, 2017).

Implementation in Maine is mandated by current law to be partially in place for the high school graduating class of 2021, phasing in complete implementation by 2025. In 2015, the MDOE conducted a survey of public school districts regarding their level of implementation. 116 of the 121 districts replied with some information, indicating that at least 41 (range 41-63) districts were not collecting or reporting data on student proficiency in each content area at the time of the survey (U.S. Education Delivery Institute, 2015).

Although many states are allowing or encouraging proficiency-based diploma policies and practices, there is currently neither existing empirical research examining implementation statewide nor evaluating rigor of local standards across all districts. **Only two states (Maine and Vermont) have laws requiring all public school administrative units to implement proficiency-based high school graduation requirements** in the near future. Therefore, it is only in these two states that proficiency-based high school graduation requirements have potentially changed the expectations required for all students in public school systems to earn a high school diploma.

Implementing Education Policy

In the child's game of telephone, one person whispers a sentence or phrase once to a listener, then the listener passes this along by whispering what she/he thought he/she heard in the

next person's ear. After passing through several listeners, the sentence or phrase is reported out by the last listener. The common result is a substantial change in the words, the meaning or the entire idea. Implementation and interpretation of policy in many fields has been found to sometimes undergo a translation process through various levels similar to this game of telephone. Policy is developed in a larger context, such as federal or state policymakers engaging experts and spokespeople from the field. It is then passed on to organizational leaders, such as superintendents and school administrators, at times with little direction or, in some cases, overwhelming rules to guide implementation. Grassroots actors, such as classroom teachers, are tasked with interpreting both the original document of policy and their supervisor's direction for implementation. As in the game of telephone, the original language or intent of a policy can often vary substantially from the outcome in implementation after passing through the many players.

When a specific policy has very concrete implementation expectations, research indicates that there is greater success in implementation that results in the desired outcome. Slater et al. (2012) suggested that by “mandating PE or recess, policy makers can effectively increase school-based physical activity opportunities.” This research found a positive impact on the overall health of students where states required at least 150 minutes per week of physical education. In comparison, more complex policy, such as requiring the implementation of academic standards within K-12 curricula, has many more points of interpretation and variation possibilities within implementation. Halász and Michel (2011) studied Europe’s efforts to institute an education policy of “Key Competencies.” Their assessment suggested that there was **dual importance in “political will” and “implementation capacity.”** They extrapolated that those countries “where strong political commitment (i.e. the support of key education policy actors) is associated with strong implementation capacities (i.e. a good understanding of the logic of curriculum changes and a competent use of appropriate policy tools)” (p. 300) would be the most likely to successfully implement the Key Competencies.

However, Lipsky (2010) posited that teachers and others in similar roles became policy makers themselves as they are forced to turn policy into practice with varying levels of guidance from the original policy makers. Therefore, **teachers trained to differentiate and personalize curricula on a case by case basis were also asked to implement policies of standardized academic proficiency** and may find challenges in the lack of correspondence between their

understanding instructional responsibilities and policy expectations. This attempt at policy translation and implementation was found to frequently negatively impact the desired outcome of the policies. Hill (2001) studied the work of math teachers attempting to decode state standards and operationalize the language used to describe concepts and performance. She found that **teachers' interpretations often differed from the intended meaning of the educational standards outlined in the policy**. Language is the medium for communication of policy but the lack of a shared vocabulary proves to be a major impediment to implementation. In an attempt to interpret policy, teachers were found to make policy recommendations conform to what they currently did in their classrooms. Hill found that teachers “assumed a quite traditional curriculum sufficient to enact great chunks of this novel policy” (p. 310). She found little evidence that teachers would make significant changes to their curriculum because “they perceived little distance between their own position and the state's” (p. 310). Hill concluded that teachers engage their prior knowledge of their subject matter to make sense of the new direction provided by the state and so much of the intended impact of the policy would be lost.

Similarly, Coburn (2006) found that schools took up education policy in order to operationalize it, so there followed a pattern of framing processes used to make meaning. She describes that how “individuals and groups frame the problem opens up and legitimizes certain avenues of action and closes off and delegitimizes others” (p. 344). These framing processes were seen to lead to the **recasting of a policy as a very similar practice as is currently in place** unless effectively guided to create an opportunity for change and adaptation of the intended policy. In another study, Spillane (2000) found that leaders implementing mathematics standards policy demonstrated a lack of understanding of the original purpose of policy, which led to failures in reaching desired outcomes. Spillane describes policy initiatives as acting like a “Trojan horse of sorts, packaging functional goals in a set of familiar instructional forms that can serve as cognitive hooks or handles for local enactors. As a result, they may find their way more easily into local school districts because they capture the attention of district leaders” (p. 171). However, because of the familiar sense of the initiative, its creators' purpose was never enacted with the intent of such a deep level of change in practice.

Despite the challenges of translation, interpretation and implementation, organizational theorists have suggested that **complexity in policy could serve as a stimulus for innovation and improvement** (Honig, 2006). Further, the process of “making the familiar strange” may be

critical for educators to reflect on their prior experience and create new understandings of their instruction and content (Spillane, 2000). The **quality of local and school level leadership was a predictor of successful implementation of policy** (Coburn, 2006; Halász & Michel, 2011).

Engaging in sensemaking, community wide dialogue, and supporting innovative practices aligned with policy goals featured in studies of successful policy implementation. One study of literacy policy implementation (Coburn, 2006) found that in preparing policy to become practice sense-making occurred among individuals with different roles and positions of authority. The ongoing efforts of school leaders to frame understanding of the purpose of the policy and the planned positive outcomes of successful implementation led to unified adoption. Leaders were active participants in the micro-processes which engaged the community and resulted in a shared understanding of the policy. She also found that **allowing for contested interpretations** of how the community framed the policy led to wider adoption of the policy.

Methodology

The fifth phase of this ongoing research includes a series of studies examining the impacts of implementing proficiency-based diploma systems within the immediate and wider contexts of public schooling in Maine. This report focuses on a case study of one higher performing high school to examine the practices, challenges and facilitators of implementing a standards-based curriculum and proficiency-based diploma systems. This research examines the process and products guiding the breadth and rigor of school district content area requirements for earning a proficiency-based high school diploma and was guided by the following research questions:

- What are the perceived facilitators, challenges and complexities of the process of developing descriptions of content area proficiency from high school educators and administrators?
- What are perceived as the necessary components for developing a manageable, working standards-based curriculum at the high school level?
- What are perceived as the necessary components for developing an efficient, effective proficiency-based diploma system that benefits all students?
- How is one higher performing high school and district implementing Maine's

proficiency-based diploma system?

Sample

For this study, one case study high school was recruited and agreed to participate in the study. This was a selective sample including a moderate-sized (enrollment), suburban high school with student achievement (percent of students proficient or above in state annual assessments, high school graduation rate, college attendance rate) among the highest one third of the state. In addition, this case study was selected because it resides in a community with higher than average socio-economic status relative to other school districts in Maine (median family income, level of parent education). These characteristics were selected to "control" for challenges of policy implementation that correlate with past lower student achievement, poverty and lower education level of parents. It should be noted that this is not a representative case study, and these are challenges that would exist for many school districts required to implement this proficiency-based high school diploma law in Maine. The impacts of implementation in school districts without these "controls" have been discussed in previous years' research conducted by MEPRI on this topic and other related topics. This selective case study sample is intended to reflect the perceptions, impacts and challenges of a high school and school district able to fully implement the proficiency-based diploma policy in a manner that meets the requirements of the law, is accepted by the community and is perceived by educators and administrators as not detrimental to student achievement or students' educational opportunities. However, it should also be noted that the law does not require implementation until the graduating class of 2021, with full phase-in of all standards by 2025. This case study high school has adopted proficiency-based high school graduation requirements already, but is clear about the understanding that is still a work in progress with improvements and changes still underway.

Data Collection & Analysis

First, a literature review of national research was conducted to illustrate the history and context of standards-based education in the United States. In addition, literature was examined that explored the approaches of other states working with proficiency-based, standards-based, competency-based or mastery-based education to identify policies and strategies related to implementing such policies. Following the examination of this existing research and literature, an interview protocol (see Appendix A) was developed to address the following topics:

- Perceived facilitators, challenges and complexities of the process of developing common descriptions of content area proficiency from high school educators and administrators.
- Components and characteristics perceived as necessary for developing a manageable, working standards-based curriculum at the high school level.
- Components and characteristics perceived as necessary for developing an efficient, effective proficiency-based diploma system that benefits all students.
- Identifying practices, protocols and structures developed in one higher performing high school and district to implement Maine's proficiency-based diploma system.

In total, the data analyzed for this study represents 16 in-person interviews, including ten individual interviews and seven focus group interviews. Interview subjects included professionals from one school districts: high school administrators, high school teachers, district administrators and staff, high school guidance. In addition, a focus group of district school board representatives was conducted. In total, 34 individuals participated.

Researcher notes were compiled and organized to describe the practices, protocols and structures. Interview data regarding participants' perceptions was analyzed and examined across researchers for reliability in relation to emergent themes and themes in existing research. The MEPRI research team established key areas of focus as well as significant findings that were unique or divergent. Descriptive findings were reviewed by the case study school administrators and school district superintendent for accuracy. These findings from a case study of one higher performing high school examine the practices, challenges and facilitators of implementing a standards-based curriculum and proficiency-based diploma systems and are discussed in this report in the section below.

Findings

Ongoing research by the Maine Education Policy Research Institute (MEPRI) regarding the impacts of Maine's proficiency-based high school diploma policy indicates that participants are experiencing and predicting a variety of impacts as schools implement this state law. The current study examines the work of one high school within a public school district that is in the process of developing a proficiency-based high school diploma system. This case study reflected a school and district that have implemented many of the key components of this system but are

also still in progress towards full implementation and complete understanding of the expectations of the state law. This mirrors the journey of many schools implementing state or federal policy (cite, cite) as well as the path of other schools in Maine interpreting this state law (cite, cite).

A Solid Foundation

As one teacher in this research explained implementing this state proficiency-based graduation policy within the school, "It's like a puzzle. We looked at the picture to see what pieces were missing. You really have to have all the pieces in place or else you're not going to have a full picture of a proficient graduate. If there are missing pieces, that is where you prioritize your time and resources...yes, if you have a lot of pieces missing, that requires a lot of time and resources. But I still don't think you can develop a proficient graduate without those pieces." This case study describes one public high school's journey to putting that puzzle together. In addition, this case study school was selected for examination because many of the pieces were already in place when this research was conducted. It was a higher performing school with student achievement among the highest in the state with regard to state assessments, graduation rates and college attendance rates. It was a higher resourced suburban school with household income rates and per pupil expenditures above the state average while also being identified as a "more efficient" school (Silvernail et al., 2011).

Prior research on Maine schools implementing the proficiency-based high school diploma law had included schools and districts representing various demographic and geographic contexts, reflecting the facilitators and challenges of these situations (cite, cite). This study describes a context in which the participants (educators, administrators and school board members) believed that many of the key components of a manageable system beneficial to students were present or able to be developed. These key elements included attributes of the community, leadership, faculty and staff, as well as students and their families. It was acknowledged that this case study school "has a lot of students who can and will do their homework," "a community that for the most part trusts in our school," a "tradition of good teachers and leaders," and a "culture of achievement." Although participants recognized that these were not characteristics that existed in all schools, it was also noted that these were still key pieces to what was expected in building a strong standards-based and proficiency-based diploma system. As one teacher said, "If you have higher poverty rates, less supportive leadership, or more students with greater need for academic support those are going to be missing pieces other

schools will have to find a way fill and often with less support and less resources." Despite the advantages of this case study school, challenges still existed and this work was clearly a long-term process that was in progress. An administrator said, "We can't spend too much time patting ourselves on the back. Sustaining this work is not easy. Some changes need to be made. We are changing, the needs of our students are changing. It is not a static situation."

A History of Standards-based Education

As described in the introductory sections of this report, the state of Maine has had a decades-long history of working with education standards. Several teachers in this case study had been part of Maine's work in the late 1990s to incorporate the *Maine Learning Results* content area standards and guiding principles into subject area curricula. In this way, the content area teams were not starting from scratch to implement a standards-based education system; many courses had components of curriculum or assessments that were already aligned to standards before the proficiency-based diploma law was passed. As one teacher said, "We really have been talking about this for a long time. Maybe it's shifting vocabulary and calling it something else and reorganizing, but ever since I've been teaching...it has been standards-based." Building on this existing work was seen as critical to the morale of teachers and staff: "It's important to recognize we are already doing a lot of this. People can get resentful if our work is just meeting the law."

The district had recently adopted a curriculum review cycle that revitalized this work and rotated each subject area through a four-phase process in which "a team of K-12 teachers will evaluate and revise the curriculum to eliminate inconsistencies and overlap and ensure that instruction is aligned to standards and is both rigorous and relevant." However, the concept of having a subject area map that outlined the scope and sequence of goals and curriculum K-12 was not new to veteran teachers in this school. A school board member said, "We were codifying something we were already doing." The superintendent echoed this sentiment, "In the past we have had thoughtful faculty who got together to develop a program that benefits kids...we are not going to throw that out."

For example, most summative assessments were graded using rubrics explicating the common expectations and standards met within the task with descriptive language identifying the quality of work (see Appendix B for sample standards-based rubric). Educators indicated that they utilized rubrics throughout the learning process: to explain the goals of a unit, to describe

the learning objectives of an assignment, to guide formative feedback, to assess the student work and to inform student revisions. This process was common practice for many teachers, even prior to the proficiency-based diploma state policy and provided a critical foundation for the work to implement elements necessary under the law.

Professional Development & Collective Work

Building upon this existing foundation, professional time had been embedded into the contractual expectations for ongoing collective work and content area learning. A good amount of this professional time was dedicated to interpreting and understanding the standards of the content area. A science teacher said, "It is critical to making sure we understand the national standards and expectations of our field beyond this school...going to National Science Teacher Association conferences, time to dig into online Next Generation Science Standards resources for interpretation...part of the work day, compensation. Well, it's not really well compensated, but something." The superintendent indicated that the district was not able to fund offsite professional learning experiences "as often as we would like" and "we have to be selective." But, it was noted that the state funding provided with the proficiency-based diploma mandate supplemented this resource, allowing approximately \$300 per teacher for attending professional conferences, workshops or meetings to "inform us of the national context and engage in regional conversations around standards and content-area expectations."

Although the proficiency-based diploma state law instigated specific changes in high school graduation requirements, many educators in this study perceived the work as "making our practice more consistent with our pedagogy" or "meeting the letter of the law without falling into the trappings of the law." There was substantial work to align, document and map curriculum in a way that connected previous development to current practice and expectations of the law. A teacher said, "It was a lot of work. We did a lot of work for the past four years specifically, even building on an existing system familiar with standards." Another teacher explained the process: "We aligned curriculum to [national] standards. We asked, 'If someone is getting a credit in a certain course, what does that mean they should be able to do? What do we see as the biggest deficiencies of students going through this system or this course? Where are the holes we see most often, how do we change curriculum to fill those holes?'" In the content area of social studies: "We looked at our current practice and developed a K-12 scope and sequence mapping. We made adjustments. For example, there were too many years that we were covering U.S.

History. So, we went back to our grade-level teams then back to the K-12 committee, and we finally agreed on when and where to cover things."

This work required significant collective professional time and work. "Lots of dialogue. Lots of consensus," said one teacher, "Professional time is huge and critical. I can't imagine how we would have done it without that time; it would have felt like a mountain." The professional needs and time allocated was developed by the school's leadership team. This team consisted of faculty representatives from each content area, school administrators and other staff. A teacher described, "Our professional development time is well crafted...we understand what we need to do and it is valuable to us. There is a purposeful way that leaders plan our professional time because people listen to teachers here. The leadership team is listened to and includes teachers. It's not just another committee." As the proficiency-based system was being developed, designated professional time was provided: "We had quite a bit of time in the beginning. We were able to propose some summer time to work on it and people kind of took what they needed and people needed different amounts of time."

There continues to be contractual professional time without student obligations for one and a half hours per week. Staff and faculty agreed that this time was used in a productive manner for "curriculum development, professional sharing and important discussions among each other." Many faculty indicated this was testament to the quality of their staff as well as an efficient use of internal resources. An administrator said, "We don't hire these things out. The leadership team says we have work to do within that is relevant, so we dedicate time to that."

However, educators also agreed that more time was still needed to maintain this dynamic system and implement other recommended practices. A teacher said, "Time is the biggest factor, the biggest need. Time to not only talk about the vision but once the school year is rolling, we would like time to look collectively at student work. To determine if a student has met a standard, we should really be doing objective group assessing but we don't do that yet." Another teacher reiterated, "We'd like time to let us collaborate more easily. There's not as much time as we would like."

Defining Proficiency

Similar to other schools in Maine participating in past MEPRI research examining implementation of a proficiency-based diploma system, this case study high school utilized national content area standards to develop local graduation requirements but adapted the

language and consolidated the expectations outlined in national documents. A teacher described the adaptation of Common Core State Standards to the local graduation expectations: “We have modified them; the wording for the national standards is very lengthy so to keep it simple/easy to understand for not just us but everyone in the community...but they are really tightly interconnected.” For example, the Common Core State Standards in Mathematics delineates over one hundred “standards” at the high school level. Therefore, this school had summarized those standards into the following five expectations for high school graduation:

- “Solve problems by using algebraic skills;
- Create and apply mathematical models;
- Work with and interpret data;
- Understand and interpret functions;
- Reason using geometric concepts.”

Similarly, the American Council on the Teaching of Foreign Languages established national proficiency or fluency levels. However, these definitions articulate five categories of fluency that are more aligned to industry expectations than high school level expectations: an advanced speaking level is a prerequisite for United Nations employees; an intermediate speaking level or “approaching fluency” is reflected in Advanced Placement examinations. A teacher at this case study high school said, “It is not possible to produce students truly fluent in a language if they start studying it in seventh grade, unless they are experiencing full immersion. So, our school proficiency level is built on reasonable learning for grades seven through nine.”

Educators and administrators reiterated the need for this collective approach to developing a cross-content, K-12 system. A teacher said, “The collaborative part was not just in our own learning area. We were also provided with examples of what other learning areas were doing as well so that we could kind of align even though it looks quite different. We could align those, and then we were provided with templates that were developed...so theoretically speaking every content area should have a link to that [common assessment].” There was also work with lower grades. A teacher said, “Nobody works in isolation. It was a lot of work, four years of work. The high school graduation expectations are based on a system in grades seven through twelve.” While high school grade reporting remained in the traditional 100-point scale, these shifts to standards-based credit requirements were also seen as connecting to the pedagogy of standards-based grading system in the lower grades. The process was described as creating

"more consistency among teachers and less freelancing" by a school board member. Teachers also reported that the collaborative work and shared assessments "provided consistency to the system."

High School Graduation Requirements

In addition to mapping curriculum, aligning assessments to standards, as well as iterating school values, mission, beliefs and expectations, this case study high school implemented new requirements mandatory for earning a high school diploma in 2014. Graduation expectations had been established and adopted into district policy in this case study in the content areas of mathematics, English, science, world languages, health sciences, social studies, as well as visual and performing arts. Mandatory school wide projects or assignments were aligned to career, citizenship and community engagement standards. Graduation expectations had also been developed for technology education, and dedicated learning sessions were required for all students in digital citizenship as well as utilization of various technologies for communication, information management and document sharing. However, incorporating these technology standards into the common assessment system or as a component required for graduation was still in progress at the time of this research.

In addition to earning credit for a course by achieving an average grade of 70 or above, students were required to demonstrate proficiency in select standards on specified common assessments. Also, school wide assignments or projects, usually conducted within the advisory program, had to be completed to meet graduation requirements. These local policy changes were implemented for all high school students and faculty: "We rolled out as an entire school, so it wasn't just ninth grade teachers dealing with this." Another teacher said, "We chose not to phase it in grade by grade for professional equity issues."

These additional graduation requirements were selected and implemented with consideration of the local context. It was a collective decision to maintain many of the traditional graduation requirements, such as earning course credits and reporting grades on a 100-point scale. It is not required by the state law to change these components, and this case study school determined that maintaining these practices and structures was what would best serve their students and educational goals as a district. A teacher indicated, "The credit requirements are also critical. It makes sure that every possible pathway engages all students (well, 99%...all mainstreamed students) in all standards." Another teacher explained, "Here, it was important not

to ditch the current grading system. We don't want two separate systems. We knew grades were motivating to many of our students; we weren't going to change that." A school board member echoed, "If there was a proposed change to the grading system, there would be an uproar in the community." There were also pedagogical reasons cited for retaining certain traditional practices: "Keeping the credit requirement emphasizes the learning along the way, not just one major exam or assignment." Professionally, it was underscored that the process of integrating new local policies and practices built on current successes. A school leader said, "Teachers need to see and believe that what they are doing isn't tearing down something entirely and doing something totally different...Even in the worst school, there must be some good things to maintain. It's hard to feel excited when you're told you've been doing everything wrong for the past twenty years."

Still, the new proficiency-based common assessments requirement was a significant change to graduation requirements, so school staff and faculty were engaged in professional trainings dedicated to preparation for implementation: "We did role-play in a faculty meeting about how we were going to roll this out to students and parents. We wanted to be sure it wasn't faculty versus students." In addition, "The leadership team had clear plans for supporting students in place before we rolled it out. There were many layers of communication for parents." An administrator shared, "A half day of workshop was entirely dedicated to role-playing how we would respond to parent pushback." It was also reiterated that all faculty, staff and students were united in this change. A school leader indicated, "We wanted school uniformity around the structure of the [common assessments] concept: all teachers, all students."

There were district policies developed to allow students to demonstrate their proficiency through various pathways, such as independent studies or "learning through experience" options or extended learning opportunities. However, it was reported that the majority of students still fulfilled the general graduation requirements through a traditional course-taking pathway.

Common Assessments

A key element of this case study school's proficiency-based diploma system was the inclusion of core assignments in each course that were aligned with content area standards in which students must demonstrate proficiency to earn course credit. This policy was adopted by the school district in 2014 and included in its Proficiency-based Diploma Extension Option 2 submission approved by the Maine Department of Education in 2015. Each content area had

subject-specific graduation expectations (see Appendix C) describing the skills and knowledge a proficient student would demonstrate. In addition, as previously mentioned, each content area required a certain number of years or semesters of enrollment, number of credits earned as well as common assessments successfully completed. There were also school wide common assessments aligned to Maine's Guiding Principles standards required for graduation and completed in the advisory program.

The content area common assessments were summative assignments that had to be completed by all students in the course. In addition, as a teacher stated, "All students meet all graduation expectation standards regardless of course selection. We developed a grid to ensure that the students will hit all standards multiple times." Curriculum mapping confirmed that, regardless of a student's individual course pathway or selection of classes, every student (excepting a small percentage of students with severe disabilities) would have to demonstrate proficiency on each of the graduation expectation standards at least once (and usually multiple times) within their high school experience. A teacher said, "We worked on a curriculum to correlate with the standards...develop a system a kid can't go through and sidestep any of these big ideas." Each content area graduation expectations identified three to seven standards adapted from local, state and national standards.

The task and rubric of the common assessments were aligned to these locally-adopted content area standards. One teacher noted, "All our rubrics are aligned to standards; students will tell you that." Therefore, "students must meet each of the graduation expectation standards in a rubric for a [common assessment] by earning an 80 or above. But, they don't have to meet all sections of the rubric at that level. They may have sections that we've just introduced that are not required to meet for graduation yet." However, the student must also earn an average of an 80 or above in the assignment as a whole. Often, school wide expectation standards were also embedded within the common assessments in certain content areas as well. (See Appendix D for a sample common assessment task and rubric.)

Each course included multiple common assessments (ranging from two to seven). As described above, curriculum maps were developed to ensure that all course pathways or class selection sequences required every student to encounter each content area standard at least once. (See Appendix E for sample topic scope and sequence.) Many courses had existing core assignments prior to the state's proficiency-based diploma law, and the local system development

often started there: "The first step is identifying what we are already doing that works or meets the expectations. Otherwise it can be demoralizing." Ongoing work established course curriculum frameworks, delineating units of study, themes and resources (See Appendix F for sample curriculum framework).

Alignment, development and mapping of this common assessment system required significant professional time. A math teacher described the process: "Each [common assessment] is aligned with one or more standards. The entire math curriculum is tracked via Google Docs to see which skills or standards students are expected to have by the time they complete the course content." A teacher portrayed, "For two years the bulk of our professional time was building the [common assessments]. We have two to three hours per week free of students dedicated to that work: Mondays from 3-4:30pm and Wednesdays from 7:40-8:50. Professional time is huge and critical." Another teacher added, "I can't imagine how we would have done it without that time; it would have felt like a mountain."

The high school common assessments were able to be reported and tracked in the current data management system, PowerSchool. This system could reflect standards aligned with a course. In addition, personnel with the capacity to write code could customize reports and the information displayed from a query. In this district, this work had been done by the database administrator to allow teachers, guidance and administrators to access information of students on their course load (including advisees), including a list of common assessments the student had not completed to date. Many educators in this study noted that ready access to this information was critical in communication, support and management of student progress.

Systems of Student Support

An essential component of the proficiency-based diploma system has been consistently identified as the practices in place to help students as they work towards demonstrating proficiency and support structures available for students who are struggling to progress. Student support has been one of the most significant components identified by numerous participants in previous research in Maine examining proficiency-based policy implementation as well as higher performing and improving schools, both among high-resource and high-poverty schools and school districts. It should be acknowledged that the scale of student need affects the scope of this challenge: in communities with higher levels of student poverty, the barriers to student achievement are more plentiful and require greater resources and innovation. This case study

high school was not representative of a high-need school. As one school board member noted, "As a community, we don't really have kids who are not proficient." A school administrator said, "Struggling students are certainly here, but our numbers are low." An educator said, "There are students who do and can struggle, but we can support them all the way through."

This case study represented a system that included "adequate and thorough" supports for students who were struggling academically, according to school leaders. However, many of these structures were informal, such as teachers staying at school beyond their contractual obligations to provide one-on-one assistance to students. An educator indicated, "Logistically, for better or worse, it's created a lot more time working individually with students outside of class, outside of contracted time. We are here for one to one and a half hours after school for at least one or two days per week working with students." Another teacher said, "We still have more need for students to get support they need during the school day, during a contracted day and for kids who have extra-curriculars or need to take the bus."

Most participants believed that students who required support had opportunities to access available resources but noted that various characteristics of the student population, course load, class size, community priorities and geographic locale contributed to the school's ability to adequately provide for every student needing support. The average class size in this school ranged from about thirteen to eighteen students in certain subject areas, and the average content area teacher student load range was approximately 72 to 91 students. An instructional support teacher indicated that the case load in that targeted program was a maximum of 75 students per year and that a larger case load would require more staff, space and resources. Therefore, the challenges, manageability and success of the structures and practices identified in this study should be understood within this case study school's context.

This case study high school offered multiple levels of support to help students to stay on track and remediate when necessary. Formal instructional support included various levels of special education services, an academic support center serving students with disabilities and students without disabilities, Response to Intervention tiered services, a Student Assistance Team, student advisory program as well as guidance counselors and social workers. In addition, numerous participants in this study indicated that classroom teachers were an essential level of formal and informal support, available to students before school, after school, during free periods of the school day, and constantly connecting with students. The Student Senate had advocated

for additional school time dedicated to making these connections and offering an opportunity for students to make-up work or meet with teachers; consequently, a "catch-up day" had been instituted each quarter. During one period of the "catch-up day," students were based within their advisory classroom but had utilized a shared Google Doc to sign up for meetings with their course teachers to revise required common assessments, make-up work due absences or discuss performance. Advisor teachers also had a list of their advisees who had incomplete common assessments and would guide students to appropriate support opportunities to work on those tasks. While educators admitted that the management and structure of the sign-ups and time could be improved, but described it as a valuable occasion to "make sure kids don't fall through the gaps." An instructional support educator said, "We are quietly and consistently looking for educators who can help. It can be as easy as walking around the building."

As required by federal and state law, this high school offered many special education services for students with identified disabilities. There were five learning centers for students with different needs, and any pull out classes were organized by subject area and often included non-identified students or students with a "504 plan." However, a key to the strength of the programming for students with disabilities was seen as the attitude of shared priorities among the entire faculty reflecting a sense of value among all instructional staff and all students. A special education teacher said, "There is a pervasive sense of unconditional, positive regard for all students." Professionally, educators identified that an underpinning of the proficiency initiative was a clear communication and expectations of collaboration across learning areas and among all staff, including faculty primarily serving students with disabilities working closely with faculty working in mainstream education services.

The common assessment graduation requirements reinforced this approach of equity because they were adopted in all levels and pathways, engaging students with disabilities as well as students without identified disabilities. Students receiving special education services often incorporated discussion of their progress on these required common assessments as part of their annual IEP goals. A special education administrator noted, "All students engage in school wide expectations and advisory program." However, certain challenges of interpreting and defining proficiency echoing many issues raised in a recent related study (Stump, Johnson & Jacobs, 2017) were also raised: "There are individuals who will never meet these standards in all content

areas. They receive our signed diploma by the end of their enrollment, regardless of ability. With current interpretation of proficiency law, they will not get signed diploma."

Another formal support structure at this high school was the academic support center, which could be utilized by any student with or without identified disabilities. Students could voluntarily access services or were referred by a teacher or parent. The center was staffed by one certified teacher with experience as a content area educator and special education teacher as well as assistance from one educational technician two periods per day. It served up to seventy-five individual students per year. It was noted that a manageable class size was ten to twelve students. The lead teacher's approach was to make sure students connected with the classroom teacher first, then utilized the center's services: "You don't want to support kids who don't need it...the idea is to help students negotiate where to go for support." There was also a folder of shared documents in Google Drive to provide independent access by students for scaffolding or support materials in certain areas of study. Educational technicians had also developed online sharing of materials--class notes, summaries, links to documents--that were available to students needing assistance either due to cognitive understanding, class absences or organization challenges. The lead teacher offered students resources and opportunity to improve their motivation, organization and sense of efficacy: "The work I do is help kids know what is getting in the way of being successful. We make kids responsible. We talk through what made them miss school, what made them not finish that assignment. Then, we share sensible, explicit strategies for overcoming those barriers, whether it be personal, academic, organizational or motivational support." Multiple classroom teachers, school administrators and district administrators referred to the strengths of the academic support center as a key to the district's structures of "catching students early" when they needed assistance and having a system in which students were successful in demonstrating proficiency in all content areas by the end of their high school career.

Conclusions

This case study illuminated practices, local policies and systemic structures in one higher performing high school in Maine that was implementing the state's proficiency-based high school diploma mandate. The district and school were building upon and allocating existing resources as well as developing additional structures to create a proficiency-based system that they believed would both benefit students and meet the requirements of the law. This work was also described as being still in progress as well as having certain challenges as interpretation and

comprehension of the state law and forthcoming regulations continue to inform educators and communities. However, essential components to this system were identified as the recognition of pre-existing resources and work, professional time for collective development, an equitable system of common standards-based assessments, and robust structures of student support. These components also closely reflected elements perceived by participants prior research studies as necessary to build a successful proficiency-based high school diploma system in Maine. The inter-related nature of these components as systemic improvement and an equitable educational approach also affirm findings from existing research in Maine and across the nation involving higher performing and more efficient schools and school districts.

Recommendations

An Act to Implement Certain Recommendations of the Maine Proficiency Education Council (S.P. 660 - L.D. 1627) was passed into law as Chapter 489 amending the chaptered law, *An Act to Prepare Maine People for the Future Economy* (S.P.439 - L.D.1422), passed in 2012 requiring Maine's public school districts to implement proficiency-based diplomas and standards-based education systems. Evidence from this study reflected implications of this recent policy within the context of one higher performing case study high school in Maine. Findings revealed several critical components of policy implementation perceived by educators as beneficial to students:

- A dynamic process of growth that (a) recognized existing beneficial resources and strategies, (b) identified gaps of service and achievement, then (c) developed additional structures to meet both the needs of all students and the requirements of the law.
- Professional time for collective development of common grade-level content area standards, a system of student demonstration of proficiency and K-12 curriculum.
- An equitable system of common standards-based assessments.
- Robust structures and K-12 systems of student support.
- Recognition of the challenges of interpretation and comprehension of the state law and forthcoming regulations continuing to inform educators and communities.

Although this case study was conducted within the context of one higher performing high school, the critical components noted by participants closely reflected findings from previous research in Maine involving schools and school districts with various levels of student poverty, resource allocation, community support and geographic isolation. In this way, this case study can highlight the facilitators and challenges of implementing Maine's proficiency-based diploma law in a variety of schools across the state, adjusting the scale of certain components to fit the contexts of the various schools. These identified key components of a implementing a "successful" proficiency-based diploma system also reflect characteristics of higher performing, more efficient schools examined in prior research (Silvernail et al., 2012). This alignment can suggest that it is important to support public schools with guidance and resources that develop these elements of their system to facilitate successful policy implementation, contribute to increasing performance and efficiency as well as improve learning opportunities for Maine's children.

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Appendix A: Interview Protocol

ADMINISTRATIVE or EDUCATOR INTERVIEW GUIDE / FOCUS GROUP PROTOCOL

District Administrators, Content Area Educators, Curriculum Directors, School Administrators, etc.

School/district Name: _____ Date: _____ Time: _____

Introduction Script: Thank you for your willingness to talk with me today. I am _____, a research associate working at CEPARE, an education policy research center at USM. We are speaking with you today because the Maine Legislature's Joint Standing Committee on Education and Cultural Affairs commissioned a study to better understand how educators and schools are implementing proficiency-based high school graduation requirements. I would like to talk to you about your professional experience with developing content area standards and proficiency-based high school graduation requirements. We are interviewing administrators, teachers and staff as part of this study. The information from these interviews will be pulled together with other documents to get a sense of your perceptions of resources provided by the Maine Department of Education as they relate to your individual, content area, school and district work to meet the requirements of LD 1627 (formerly LD 1422). The purpose of the study is to document (NOT evaluate) some of the work being done to implement Proficiency-based Diploma Systems in Maine.

Your participation is voluntary. This interview will only be used for the purposes of this research study and will be confidential. You will not be identified by name in the report; your school and district will not be identified by name in the report. We request that you do your part to maintain confidentiality for all the participants by not sharing the information shared within this interview outside of the interview setting. However, please note that we cannot guarantee that all participants will maintain confidentiality after this interview. I don't think you'll be surprised by any of our questions, but you may choose to skip a question or stop the interview at any time. The interview should last about 60 minutes. Would you mind if I record the interview? It will help me stay focused on our conversation, and it will ensure I have an accurate record of what we discussed.

Additional contextual details if participants inquire: The task of the study is to compile a fifth-year of data on the goals, needs and successes of implementing a Proficiency-based Diploma System in Maine, as directed in LD 1422 and LD 1627, which require that high school/district students earn a proficiency-based (as opposed to time-based or credit-based) diploma by 2021 with certain academic standards phased in by 2025. Findings of this study will be reported orally to the Education Committee early in 2017 and a public written report of the study will be available following presentation to the Committee.

For question about the research or in the event of a research-related injury, please contact the lead researcher in this study, Erika Stump, at erika.stump@maine.edu or (207) 228-8117. For questions about research subjects' rights, please contact the Human Protections Administrator, University of Southern Maine at usmorio@maine.edu or (207) 228-8434.

Note: Questions asked of people in different roles may vary.

Background/Opening: To start, could you tell me about your role in the school/district?

Role / Content Area, Grade Level Focus: _____

Years at School/district/District: _____ Years in the Profession of Education: _____

(PROBE: years in district, various grade levels, any experience in other related fields, past experience in education as professional if any, etc.)

(Ask any of the following questions that could not be established by document review.)

UNDERSTANDING THE DISTRICT PROFICIENCY-BASED DIPLOMA SYSTEM (PBDS)

1. Describe your vision of PBDS successfully implemented. Possible Probe Questions:
  - a. How would you define Standards-based Education? Is it distinct from or synonymous with Proficiency-based Learning?
  - b. How are students' work habits, enthusiasm for learning, collaboration and organization recognized in your district/school/classroom assessment and reporting system?
  - c. How do students progress through their learning goals, standards and the education system?
  - d. What role do learning experiences outside of the traditional school hours and building play in students' education?
2. How is a student's demonstration of work determined as proficient or not proficient in your district, content area, and classroom?
3. Describe your district's/school's current level of implementation of a proficiency-based high school diploma system.
4. What are the challenges and facilitators to implementing this system?

DISTRICT CONTENT AREA STANDARDS

1. What are the standards required of all students to earn a high school diploma in your content area?
2. How were these graduation requirements developed in your district?
3. How does a student demonstrate proficiency in the content area standards required for graduation?
4. What is the consequence for a student who does not demonstrate proficiency in all required content area standards after being enrolled for four (or five) years in the high school?

Thank you for your time. If I have any additional questions or need clarification, how and when is it best to contact you?

Follow-Up Non-Identifying Contact Info:

Appendix B: Sample Common Assessment Standards-based Rubric

Cellular Energy Experimental Design Rubric

Part 1: Experimental Design

Category	Exceeds	Meets	Partially Meets	Does not meet
Hypothesis /4	Clear detailed testable explanatory hypothesis. Hypothesis allows question to be answered. (4)	Testable hypothesis. Hypothesis allows question to be answered, but may have small gaps in reasoning. (3.5)	Hypothesis only makes a prediction, or is not stated clearly. (3)	Hypothesis is missing or oversimplified. (2.5 or less)
Variables /4	Correctly and fully identifies how dependent variables will be measured. Selects an appropriate independent variable to address hypothesis. (4)	Identifies variables and controls with one minor error or with teacher assistance. (3.5)	Identifies variables and controls, but may have misidentified independent and dependent variables. (3)	Incorrectly identifies variables or controls or component is missing. (2.5 or less)
Controls /4	Control correctly identified and makes logical sense for the experiment. More than one control may be used. (4)	Control correctly identified and makes logical sense for the experiment. (3.5)	A control is identified, but is does not show that a change in dependent variable is because of the independent variable. (3)	No control is identified. (2.5 or less)
Experimental Design /12	Experimental set up tests hypothesis, matches identified variables and controls. Experiment is not over simplified. Experimental setup is not overly complicated. Experiment may include repeated trials (12)	Experimental setup tests hypothesis, matches identified variable and controls with 1-2 minor errors. Experiment may be slightly simplified. Experiment may not include repeated trials. (10.5)	Experiment is setup, but may not match hypothesis, identified variable or control. Experiment may be overly simplified or overly complicated. (9)	Many flaws in experimental design. Tests for more than one variable at once. Results do not address hypothesis. (7.5 or less)
Experimental Results /4	Results of experiment are collected accurately. Results of reported experiment provide an answer to the question. (Not necessarily first experimental set up.) (4)	Results are collected accurately. Results of reported experiment answer question with one gap in reasoning. (3.5)	Results are collected, but may contain mistakes. Results of reported experiment provide a partial answer to the question. (3)	Results are not collected, or collected incorrectly. Results do not answer question. (2.5 or less)
Analysis Questions /12	Answers all 6 questions completely and accurately. No errors in reasoning. Evidence from the data is cited. (12)	Answers 5 out of 6 questions completely and accurately. OR May contain small errors in reasoning for 2-3 questions. OR Evidence from data may not be cited. (10.5)	Answers 4 out of 6 questions completely and accurately. OR May contain minor errors in reasoning for more than 3 questions. OR No evidence is cited. (9)	Answers fewer than 4 questions correctly. OR Contains errors in reasoning for 5+ questions. No evidence is cited. (7.5 or less)

Successful completion of Part 1 of this Assignment meets the Critical Thinking and Working Independently School-wide Expectations.

Part 2: Using System Models

Category	Exceeds	Meets	Partially Meets	Does not meet
Structure Labels /4	All structures are labeled correctly. No errors. (4)	Structures are labeled correctly with one error. (3.5)	Structure are labeled correctly with two errors. (3)	Structures are not labeled correctly or are not labeled. (2.5 or less)
Materials & Energy Labels /6	All materials (CO ₂ , O ₂ , H ₂ , O, glucose, ATP, energy) are placed correctly in all appropriate places. (6)	Materials are placed correctly with 1-3 minor errors, or with 1 major error. (5.5)	Materials are placed with more than 3 minor errors or 2 major errors. (4.5)	Materials are placed with several errors or missing labels. (4 or less)
Arrows/ Connections /10	All materials are shown with correct arrows to represent reactants and products of each process and to show connections between processes. (10)	Arrows are largely correct with 1-2 minor mistakes or 1 missing connection. (9)	Arrows are partially correct with more than 3 minor mistakes or 2-4 missing connections. (7.5)	Arrows are largely incorrect or missing. (6.5 or less)

Appendix C: Sample Content Area Standards

Content Area Graduation Expectations

As a [Maine] High School student, you will:

English / Language Arts

- Read to comprehend appropriately complex text for analysis and interpretation;
- Analyze language and structure of a text to evaluate thematic and cultural meaning;
- Write effectively for a variety of purposes;
- Create questions, research, and synthesize information from a variety of sources;
- Effectively communicate with a variety of audiences in a variety of formats;
- Use appropriate Standard English Conventions in speaking and writing;
- Develop and use complex and appropriate vocabulary.

Mathematics

- Solve problems by using algebraic skills;
- Create and apply mathematical models;
- Work with and interpret data;
- Understand and interpret functions;
- Reason using geometric concepts.

Social Studies

- Demonstrate skills of inquiry, interpretation, argumentation, and synthesis by analyzing primary and secondary sources;
- Understand and demonstrate the purpose and functions of government and the rights and responsibilities of civic life;
- Understand economic concepts and systems and how these affect decisions at personal, regional, national, and global levels;
- Understand where people, places, and resources are located and the relationships among them;
- Understand the opportunities and challenges that arise from connections and conflicts among nations and cultures;
- Understand major historical events, eras, and themes and their defining characteristics.

Sciences

- Complete studies in Physical, Life, and Earth and Space Sciences;
- Explain and apply cross-cutting concepts of patterns, causality, and systems;
- Ask questions and construct explanations using science and engineering practices;
- Define real world problems and design engineering solutions.

Technology Education

- Create by conceiving and developing new ideas and work to effectively express ideas;
- Perform, present, and produce innovative ideas;
- Respond to others' work to develop understanding;

- Connect innovative ideas and work with personal meaning and contextual knowledge.
- Use problem-solving skills necessary to identify, develop, implement, evaluate, and refine solutions to everyday challenges.

World Languages

- Speak in rehearsed and unrehearsed situations in the target language using appropriate time frames;
- Write in rehearsed and unrehearsed situations in the target language using appropriate time frames;
- Interpret and understand information in the target language through listening and viewing;
- Interpret and understand information in the target language through reading and viewing;
- Compare cultural products, practices and perspectives of the target language with your own.

Visual and Performing Arts

- Conceive and develop new artistic ideas and work; utilize media (and technical skills) to effectively express ideas;
- Realize artistic ideas and work through interpretation and presentation; interpret and share work;
- Interact with and reflect on artistic work and/or performances to develop understanding;
- Relate artistic ideas and work with personal meaning and contextual knowledge.

Health Sciences

- Acquire valid information about health issues, services, and products;
- Understand how media techniques, cultural perspectives, technology, peers, and family influence behaviors that affect health;
- Set personal goals and make decisions that lead to better health;
- Demonstrate a wide variety of movement skills and concepts that will give you the tools to lead a physically active life.

Appendix D: Sample Common Assessment Task Description

Name _____ Class _____ Date _____

Cellular Energy Experimental Design

Part 1: Experimental Design _____/40

HC extension _____/4

Part 2: Using System Models _____/20

Total ____/____

As a HS student you will - Communicate effectively - Exhibit personal responsibility, civic engagement, and global awareness - Work independently and collaboratively - Demonstrate critical, creative, and innovative thinking - Develop understanding through inquiry, research, and synthesis	As a HS Science student, you will - Complete studies in Physical, Life, and Earth and Space Sciences - Explain and apply cross-cutting concepts of patterns, causality, and systems. - Ask questions and construct explanations using science and engineering practices - asking questions and constructing explanations in science - planning and carrying out investigations - analyzing and interpreting data - Define real world problems and design engineering solutions.

Description of Task	Prior to assessment: All students will work in teams to complete the Cellular Respiration: Yeast Fermentation Rates lab. Teams will design an experiment to collect data. In groups, students will be asked to do mathematical analysis to interpret results of their experiment. The assessment: Individually, students will use an online virtual lab to design an experiment to show their understanding of photosynthesis and respiration. Individually, they will analyse those results in response to questions.
What does successful completion look like?	Students need to earn an 80% based on a rubric for lab analysis including use of tables, making graphs, interpreting results and drawing logical conclusions.

Part 1 – Experimental Design and Analysis – Cellular Energy

- Follow the instructions for the virtual lab “Carbon Transfer through Snails and Elodea” from [Classzone](#). **You will need to use both snails and elodea in your experimental idea.**
- Problem:** You are setting up a snail aquarium at home. Your aquarium kit contains a bag of snail eggs on an Elodea plant. The instructions say to put the contents, including the Elodea, into the aquarium, but you’re not sure why you need the Elodea. **Why might Elodea plants be important in maintain a healthy system?** Your experiment should address this problem.

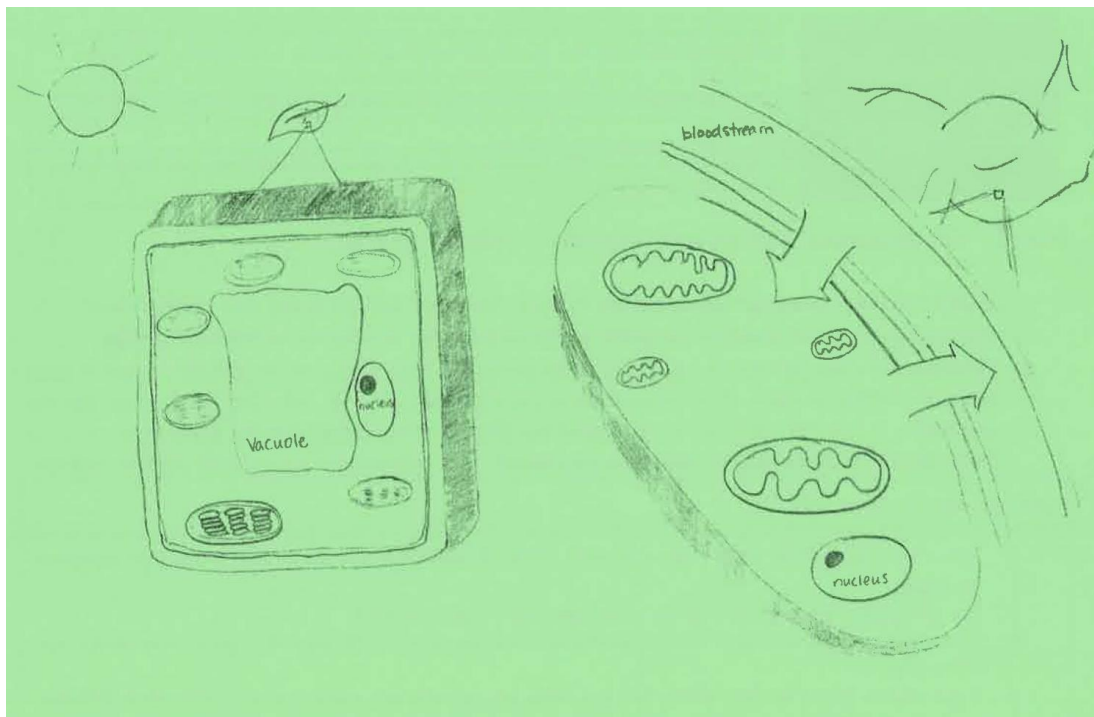
Tips for using the virtual lab: - Follow the steps listed. If you make a mistake, it may be difficult to change it. Please ask your instructor for help.   - You are allowed a maximum number of 2 plants and 2 Snails per tube.   - When filling up the test tubes with bromothymol blue, you need to fill them all at once. You cannot add tubes later.   - If you choose to put samples in the light and dark, you can only put a whole rack of tubes (4) in the light or darkness. You are not able to split up the rack. The rack on the left can go in the dark; the rack on the right cannot go in the dark. Both racks can go in the light.   - The program will cut off your answers at two lines of text. If you need to write more, or if you want to change your hypothesis, copy and paste your hypothesis and analysis questions into the document shared with you in Classroom.

3. **Print** your Hypothesis, Experimental Design and Analysis Questions from the online program.
4. HC: Answer the additional question for Part 1.
  - a. How would you modify this experiment if you wanted to **quantify** the carbon exchange between the Elodea and the snails? (4 points)

Part 2 - Using system models

1. Based on your understanding of cell structure and cellular energy, complete the model above. Be sure to show flow of materials and energy in your model.
2. Add the following to the model:

Label these once:	Add and show arrows for direction of movement for these. You can use the labels as many times as you need.	
○ plant cell ○ muscle cell ○ mitochondria ○ chloroplast	○ O₂ ○ CO₂ ○ H₂O ○ glucose	○ ATP ○ Energy



Appendix E: Sample Content Scope and Sequence

Scope and Sequence

K-12 SOCIAL STUDIES CURRICULUM SCOPE AND SEQUENCE

Kindergarten	• Building Community • Self • Self & Others • Family
Grade 1	• Building Community • Self & Others • Family • Recycling and Composting • Maps
Grade 2	• Our Community • US Geography and Native Peoples by Region • Global Awareness
Grade 3	• Communities Around the World • Rights in a Democracy
Grade 4	• Maine Geography, Natural Resources, and Major Industries • Maine's People and Their Role in History
Grade 5	• Exploration • Colonization • American Revolution • Geography (embedded) ○ settlement patterns ○ location of colonies ○ map skills (basic)
Grade 6	• Definition of Culture • Modern World Cultures • Geography (embedded) ○ geographical features
Grade 7	• Ancient China • Ancient Egypt • Ancient India • Geography (embedded) ○ five themes related to each culture

	• Aztec MesoAmérica
Grade 8	• Maine • US History (thematic) • Geography ○ World map colonialism to WWI ○ Europe WWII and Cold War ○ US States
Grade 9	• Ancient World History to 1600 ○ Ancient Israelites & Judaism ○ Ancient Greece ○ Hinduism & Buddhism ○ Ancient Rome ○ Christianity ○ Islam ○ Middle Ages ○ Renaissance
Grade 10	• Modern World History ○ Age of Exploration and Global Trade ○ Scientific Revolution and Enlightenment ○ Political Revolutions ○ Industrialization ○ Imperialism ○ World War One ○ World War Two ○ Decolonization & Cold War ○ Conflicts in the Modern Middle East ○ Modern China • Advanced Placement Modern European History ○ Renaissance and Reformation ○ New Monarchs and Nation States ○ Absolutism & Constitutionalism ○ Scientific Revolution & Enlightenment ○ French Revolution ○ Industrial Revolution ○ Age of Ideology ○ Age of Nationalism & New Imperialism ○ Culture of Industrial Society ○ World War One & Russian Revolution ○ Age of Anxiety ○ Cold War & Aftermath
Grade 11	• United States History ○ The American Frontier

	○ Government and Civics ○ Industrialization and Reform ○ Diversity and Equality ○ War and Diplomacy • Advanced Placement United States History ○ Colonial America 1491-1763 ○ Age of Revolution 1763-1783 ○ Early American Government: From the Articles of Confederation and the Constitution and Federalism ○ Early 19th Century Democracy: From Jefferson to Jackson ○ A Changing America 1790-1860 ○ The Civil War ○ Reconstruction ○ The Gilded Age 1865-1890 ○ A New Frontier, Rural Populism, and American Imperialism ○ TR and the Dawn of the American Century ○ The Roaring Twenties ○ The FDR Years: The Great Depression and World War Two ○ The Cold War 1945-1969
Grade 12	• (Elective) - Human Behavior • (Elective) - Economics • (Elective) - U.S. Government • (Elective) - Asian Studies • (Elective) - Middle East Studies

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Appendix F: Sample Course Curriculum Framework

Grade 10 Curriculum Framework

Grade 10: Modern World History Since 1600

This course is designed to introduce students to the history of the world since the 16th century. This period is referred to as “modern” not because it is a period of modern inventions like television and computers, but because of modern thinking-- the fundamental belief that people can understand and improve the world in which they live. On the basis of this belief, there have been radical changes in politics, economics, religion, technology, and culture. While many changes in thinking are rooted in Western Europe, this is a world history course. We will address forces and patterns of change in Africa, the Americas and Asia as well as in Europe over the last 500 years. This course will take into account the importance of science and technology, political revolutions, nationalism, industrialism, imperialism, and the interdependence of nations as they developed in order to give students insights into many of the issues facing our world today.

Unit Summary	Essential Questions / Conceptual Understandings	Themes	Experiences and Resources
UNIT OF STUDY:	Exploration and Global Trade		
10.1 This unit examines the important political, technological, and cultural developments in western Europe that led to efforts to find new trade routes to Asia in the 15th century. Eventually the three diverse societies of western Europe, Africa, and the Americas encountered one another, resulting in new long-distance exchanges of goods, people, ideas, and disease. Western European countries that dominated this exchange emerged as new global powers, and fueled productivity and commerce at a new global scale; the benefits of this commerce were unequally distributed, resulting in reshaped environments, social inequities, and a rise in slavery.	- What factors led to European exploration and conquest of the Americas in the sixteenth century? - What were the consequences of European exploration and conquest of the Americas in the sixteenth century? ----- 10.1a Technological innovations increased opportunities to make new trade routes resulting in transatlantic and global exploration. 10.1b As a result of the Columbian Exchange, a variety of new agricultural resources, practices, crops, and domesticated animals were introduced to different world regions. 10.1c The exchange of pathogens, plants, animals, and ideas resulted in far-reaching demographic, political, social, and economic effects in the Americas, Europe, and Africa. Millions of native Americans died from new diseases and forced labor. 10.1d The global exchange included the enslavement, displacement, and relocation of people. 10.1e The global exchange created a	Time, Continuity, and Change Global Connections Production, Distribution, and Consumption	Students will analyze positive and negative impacts of Columbian exchange (CCSS.ELA-LITERACY.RH.9-10.4) Compare economic incentives and impact of early explorers (CCSS.ELA-LITERACY.RH.9-10.2) Create a diagram explaining mercantilism Analyze artifacts relating to slavery

	vast slave trade and a new global economy. 10.1f Different levels of social integration and assimilation occurred under colonizing powers, laying the foundations for complex and varying social hierarchies 10.1g African, European, and Native American peoples came together to create a hybrid of cultures that are visible in the world today 10.1h The European mercantilist system created economic disparity between regions involved in the trade system 10.1i The increased wealth generated by Atlantic trade networks enabled European monarchs to consolidate power leading to the rise of absolutist governments		
UNIT OF STUDY:	Scientific Revolution & Enlightenment		
10.2 This unit explores Enlightenment ideas that called into question traditional beliefs and inspired widespread political, economic, and social changes that will be introduced here and explored more in the following unit. We begin with the scientific discoveries and methods developed in the 16th and 17th centuries which paved the way for Enlightenment ideals. These ideals were used to challenge political authorities in Europe and colonial rule in the Americas and inspired political and social reform movements. These ideals would shape contemporary ideas about universal human rights.	• How were the discoveries and methods of 16th and 17th century scientists revolutionary? • How did this new approach to learning lead to changes in government and society? • What are the philosophical foundations of constitutional government and human rights? ----- 10.2a Scientific discoveries of the Renaissance era challenged the geocentric, Aristotelian worldview. 10.2b Scientists pioneered new methods of learning that challenged traditional beliefs and promoted critical thinking. 10.2c Enlightenment thinkers developed political philosophies based on natural laws, which included the concepts of social contract, consent of the governed, and the rights of citizens. 10.2d New political philosophies and the distribution of their ideas affected the demands people made of their governments. 10.2e A universal concept of human	Time, Continuity, and Change Science, technology and society Power, authority, and governance	Investigate Galileo experiments Enlightenment, philosophic reading and image analysis (CCSS.ELA-LITERACY.RH.9-10.2) Declaration of Independence and Bill of Rights interpretation (CCSS.ELA-LITERACY.RH.9-10.5)

	rights began to develop during this time period; these ideals continued to develop and are at the center of many important international issues today.		
UNIT OF STUDY:	Political Revolutions		
10.3 The French Revolution was caused by multiple factors including government's financial difficulty, poor conditions of the lower classes, the impact of Enlightenment ideas, and lack of political representation for the vast majority of the population. In 1789 the revolutionary Third Estate established constitutional monarchy but radical forces emerged to end the monarchy and create a republic. Radicals were empowered to rule and instituted a Reign of Terror against domestic enemies at the same time that the armies of France waged war with Austria and Prussia. Eventually the brilliant military general, Napoleon Bonaparte seized power and fought to extend French control and the basic principles of the revolution throughout Europe. Napoleon's relentless ambitions ultimately led to his downfall. Developments in France inspired changes in the French colony Saint-Domingue (Haiti). What started with a massive slave revolt eventually became a revolution in which Haiti became the only the second colony in the Americas to gain independence and the first nation founded by freed slaves.	• What factors fueled the French Revolution and the Haitian Revolution? • In what ways and to what extent did the French and Haitian Revolutions promote equality and liberty? • What is the modern political spectrum and what are its roots in the French Revolution? • How and why did both Haitian and French Revolutions inspire changes in other parts of the world? ----- 10.3a Before the Revolution French society was divided into three estates with differing legal rights and privileges. 10.3b The short-term causes of the French Revolution lay in the financial difficulties of the monarchy combined with the poor conditions of peasants and workers. The long-term causes included inability to reform the tax system, lack of political representation for the vast majority of the people, and the ideas of the Enlightenment. 10.3c The Estates-General called by the king in 1789 for the first time in 175 years, was quickly transformed into the National Assembly when the Third Estate swore the Tennis Court Oath and created a constitutional monarchy with limited suffrage. 10.3d The refusal of the king to accept limited powers combined with the radicalization of the working classes led to the creation of a republic and execution of the king. Radicals were empowered to rule and led a Reign of Terror on domestic and foreign enemies of the revolution. 10.3e Following the radical phase, Napoleon Bonaparte seized power and	Time, Continuity, and Change Power, authority and governance Individuals, Groups, and Institutions	History Channel Video- French Revolution Diagram political spectrum of French Revolution Evaluate different perspectives on Napoleon's influence at end of the Revolution (CCSS.ELA-LITERACY.RH.9-10.6) Slave journal : take on the role of a slave in Saint-Domingue (CCSS.ELA-LITERACY.WHST.9-10.4) Choices deliberation on Haitian Revolution Make connections between historical events and contemporary issues in Haiti

	eventually crowned himself emperor. He established a benevolent dictatorship with political repression accompanied by widespread reforms establishing legal equality of classes and freedom of opportunity. 10.3f Events in France sparked revolutionary change in Saint-Domingue and island colony of France that had a slave population near 90% 10.3g Events led to a massive slave revolt and France chose to free the slaves to gain their loyalty to fight off foreign invasion. 10.3h Free slaves, led by Toussaint L'Ouverture then fought for and achieved independence and established the free nation, Haiti.		
UNIT OF STUDY:	Industrialization		
10.4 Enabled by new innovations in agricultural production and transportation, the Industrial Revolution originated in western Europe and spread over time. This led to major population shifts, transforming economic and social systems with differing short term and long term consequences. Economic, political, and social theories emerged to either justify or condemn these changes.	• What factors are needed for an “industrial revolution” and why did this occur first in Britain? • What positive and negative social and economic effects are associated with industrialization? • What is capitalism all about? What are the theoretical benefits and problems associated with it? • What is communism all about? What are the theoretical benefits and problems associated with it? ----- 10.4a Technologies enabled people to support large-scale farming, develop new transportation systems, and alter and construct urban industrial areas. 10.4b Technological innovations and new methods of production led to increased efficiency and ultimately a higher standard of living. 10.4c The decline in old production methods caused shifts in population, new patterns of labor and social change as people relocated from rural to urban areas. 10.4d Economic theories based on	Time, Continuity, and Change Science, Technology, and Society Production, Distribution, and Consumption	Adam Smith and Karl Marx readings (CCSS.ELA-LITERACY.RH9-10.2) Child labor speeches (based on primary sources) (CCSS.ELA-LITERACY.WHST.9-10.4) Supply and Demand identify real-world examples Diagram Karl Marx’s stages of history

	wealth, capital, and laissez-faire ideas concerning the role of government replaced earlier theories based on mercantilism. 10.4e Marxism emerged as the dominant ideological critique of the laissez-faire capitalist system		
UNIT OF STUDY:	Imperialism		
10.5 The new capabilities and nationalist competition brought on by industrialization led to an Age of Imperialism in the late 19th C. Powerful states sought to protect existing interests and expand their access to new markets and resources. While colonizers often invoked theories of racial or cultural superiority, those who were colonized engaged in varying forms of adaptation and resistance to colonial rule. In this unit students do research on one particular area during the Age of Imperialism as a sort of in-depth case study and are also exposed to their peers' topics to get a broader sense of the era to identify patterns and trends.	• What factors (political, economic, social) caused powerful nations to seek greater territorial domination during the Age of Imperialism? • How did imperialism affect colonized populations? • How are the effects of imperialism still apparent in the geo-politics and economy of the world today? • How did imperialism help to create the conditions for global war in the twentieth century, and what effects did those wars have on empires and colonies in both the short and long terms? ----- 10.5a Competition spurred industrialized nations to seek dominance over resources and markets in less industrialized regions. 10.5b The move to acquire new lands was driven by philosophies of nationalism, and cultural superiority 10.5c Foreign claims over land and people often resulted in borders being shifted. 10.5d Colonized people often faced harsh treatment and engaged in varying forms of adaptation and resistance.	Time, Continuity, and Change Global Connections Production, Distribution, and Consumption	Conduct research on a specific Age of Imperialism topic using a variety of secondary sources (<i>CCSS.ELA-LITERACY.WHST.9-10.8</i>) Create a Voice Thread that tells the story of the topic in the context of Imperialism
UNIT OF STUDY:	World War One and Russian Revolution		
10.6 The international competition and fueled by industrialization, imperialism, nationalism, and militarism led to World War I. In 1914 Europeans began what would turn out to be a	• Was world war inevitable in 1914? • What is total war and how does it affect societies? • How was the first communist state (Russia) established?	Time, Continuity, and Change Power, Authority, and	House of Cards: comparing conflicts and alliances among states to family dynamics Online simulation:

four-year slaughter, destroying millions of lives, and bringing down four long-standing European empires: the Russian, Ottoman, Austro-Hungarian and German. In Russia, two revolutions in 1917 within six months of each other toppled the tsar and established the world's first communist state. A compromise set of peace treaties (collectively called the Paris Peace Settlement) disappointed many in Europe and the Middle East. Appropriately called the Great War, World War I and the peace that settled it mark a turning point not only for Europe but also for world history.	What factors shaped the peace settlement at the end of World War I and what were the pros and cons of the agreements? ----- 10.6a International competition fueled by industrialization, imperialism, nationalism, and militarism led to World War I. 10.6b Technological developments increased the scale and extent of damage and casualties during World War I. 10.6c As World War I became a total war, societies changed dramatically to meet the demands of war. 10.6d In Russia, the devastation of World War I sparked a 2-stage political revolution that overthrew the tsar and eventually established the first communist state. 10.6e The peace settlements at the end of the war broke up four major empires, but were shaped by conflicting political motivations and failed to promote lasting peace or true self-determination for many nations.	Governance Production, Distribution, and Consumption	Life in the Trenches Armenian Genocide reading and survivor accounts (CCSS.ELA- LITERACY.RH.9- 10.4) Total War and propaganda analysis
UNIT OF STUDY:	World War Two		
10.7 The ideologies of communism and fascism, both rooted in the 19th century, were put into practice on a large scale in Russia, Italy, Germany, and Japan after WW I. The territorial ambitions of these governments and repressive authoritarian leadership led to war. World War II was destructive beyond anything human society had ever experienced. Battles and conflicts erupted in Europe, Africa, Asia, and the Americas on an entirely new scale with more advanced weapons. In human terms, World War II was even costlier than WW I. Millions of civilians died in the Holocaust as well as from intensive bombing campaigns by both Axis and Allied forces. The end of the war resulted in a shift in global power toward two	- What factors contributed to the start of World War II? - What strategies were used to fight the war, and what were significant ethical decisions surrounding war strategy? - What are the legacies of World War II for Europe, the US, and the world? ----- 10.7a The rise of fascism and aggressive territorial expansion (Italy, Germany), Japanese militarism and imperialism, and alliances were key factors leading to WWII. 10.7b Western powers initially engaged in a policy of appeasement, but failed to secure peace. 10.7c Japanese territorial expansion in East Asia and the German attack on Poland led to the start of World War II in Asia and Europe, respectively. 10.7d Although many Western European powers were drawn into the	Time, Continuity, and Change Power, Authority, and Governance Individuals, Groups, and Institutions	Totalitarianism images analysis Mini-DBQ on Nazi Anschluss with Austria (CCSS.ELA- LITERACY.WHST.9- 10.1.C) Chinese vs. Japanese accounts on Nanjing Massacre (CCSS.ELA- LITERACY.RH.9- 10.7) WW2 iMovie project

global powers: the United States and the Soviet Union.	war quickly, the US' involvement was gradual - beginning with a policy of neutrality until the Japanese attack on Pearl Harbor, which drew the US fully into the war. 10.7e Nazi ideology and policies toward Jews and others resulted in the murder of millions in Europe. 10.7f Allied assistance to the Soviet Union led to a two-front war in Europe while battles raged in other theaters of war in East Asia, the Pacific, and North Africa. 10.7g Sparked by the D-Day invasion, Allied forces were able to defeat German forces in Western Europe. The US secretly developed an atomic bomb which was deployed against the Japanese to end the war in the Pacific. 10.7h The war's devastation led to efforts to help countries rebuild after the war. In the dawn of the atomic age, both the US and Soviet Union sought to influence the post-war order; both emerged as global superpowers.		
UNIT OF STUDY:	Cold War & Decolonization		
10.8 The Cold War is the name given to the relationship that developed between the United States and the Soviet Union after World War II. The economic, technological, and political competition that arose between the two superpowers dominated international affairs for decades. Many of the world's states identified with one of the two hostile blocs, one claiming to represent democracy and capitalism, the other communism. The colonized territories of Asia, Africa, and Latin America, most of which obtained their independence in this era, became client states of one or the other power blocs. Fears of communism spreading raised tensions throughout North America and Western Europe. In the Soviet Union, China, and	• Was the Cold War inevitable? • Was containment an effective policy to thwart communist expansion? • Is the world safer since the end of the Cold War? ----- 10.8a The United Nations formed after WWII in an effort to thwart future conflicts. The UN's Universal Declaration of Human Rights sought to guarantee the rights of every individual. 10.8b Post-war summits at Yalta and Potsdam shaped "spheres of influence" between the US and Soviet Union. 10.8c The US sought to project its influence through policies such as the Truman Doctrine, the Marshall Plan, the Berlin Airlift, and the formation of NATO.	Time, Continuity, and Change Power, Authority, and Governance Global Connections	Rwandan Genocide and Hotel Rwanda Readings on Cold War events- categorizing into themes (CCSS.ELA-LITERACY.RH.9-10.4)

Eastern Europe, leaders attempted to shut their countries off from the West and modernized through state-led economic reforms. Tensions between the superpowers sometimes flared into armed conflict, and the proliferation of weapons of mass destruction spawned an arms race that continues today.	10.8d At the end of WWII, nearly one-third of the world's population lived in territories dependent on colonial powers. Social and political movements for self-determination led to independence for many counties in the developing world. 10.8e Differences between market vs. command economies distinguished these two superpower blocs. Tensions also arose over the development and deployment of nuclear arms and efforts to contain communism. On numerous occasions, tensions between the US and Soviet Union flared, threatening armed conflict or war, including notable examples in Cuba, Korea, Vietnam, and Afghanistan.		
UNIT OF STUDY:	Conflict in the Modern Middle East		
10.9 This unit will analyze the causes and consequences of conflicts in the Middle East, including the development of the state of Israel and the ongoing Israeli-Palestinian conflict. Pro-democracy protests that brewed in North Africa and the Middle East in late 2010 – collectively known as the Arab Spring – have had a profound impact on the region and the world. There are common threads that tie these transformational protest movements together, including greater individual freedoms, economic reform, and more political openness. There are also important differences both in the causes and government responses to these protests.	• NEED A QUESTION RELATED MORE DIRECTLY TO ISRAEL/PALESTINE • In the Arab Spring protests, what are the political, economic, and social conditions of each of the countries that caused revolt to begin? What effects have the revolutions and protests had? • Are peace and stability in the Middle East vital to the United States' economy and national security? • Should the United States use military force to support democracy in the Middle East? ----- 10.9a The Palestinian-Israeli conflict started and continues to revolve around land and the right to self determination. 10.9b Key issues stand in the way of resolution to the conflict, including the future of settlement blocs, border lines, the right of refugees to return, and water rights. 10.9c Understand and assess the similarities and differences between protest movements in Arab countries.	Time, Continuity, and Change Power, Authority, and Governance People, Places, and Environments	Group Presentations on Obstacles to Peace (CCSS.ELA-LITERACY.RH.9-10.9) Peacemaker Online Game/Simulation

UNIT OF STUDY:	Modern China		
10.10 China is a crucial area to study regarding issues of globalization and the world economy in the 21st century. Its remarkable economic growth should be understood in the context of recent history. The Japanese invasion of China during WWII and the devastating economic and social turmoil of Mao Zedong's reforms left China a weak actor on the world stage. Deng Xiaoping's market reforms helped to launch China to becoming the strong economic power it is today. Despite its remarkable economic success, the country faces major challenges. In our world of global economic interdependence, issues and challenges in China may have an important impact on other countries in the world.	• What were the objectives and effects of major reforms such as the Great Leap Forward and Cultural Revolution? • What political, economic, and social conditions fueled China's rapid economic growth? • How do developments in China have an impact on the US and world economy? • Should other countries use economic sanctions to further democracy and human rights in China? ----- 10.10a China's last imperial dynasty was weakened by foreign intervention, making it difficult to defend its territory from the Japanese imperialist government before and during World War II. 10.10b After World War II, Mao Zedong rose to power and led the Chinese Communist Party to victory against the Nationalists, many of whom fled to Taiwan. 10.10c Mao led several important reform movements to help foster China's modernization (Great Leap Forward) and to consolidate his power (Cultural Revolution). 10.10d After Mao's death, Deng Xiaoping began new reforms, "socialism with a capitalist face," that encouraged foreign investment and allowed for market reforms. Economic reforms were not followed by political openness; student activists promoting democratic reforms were killed by the government during the Tiananmen Square protests. 10.10e Capitalist reforms in China have resulted in China becoming the world's second largest economy. The country faces challenges with political openness and corruption, human rights violations, environmental degradation, rural-urban migration, and unrest among minority ethnic groups.	Time, Continuity, and Change Power, Authority, and Governance Global Connections	PBS Frontline Tank Man Video Tibet: Differing Perspectives (<i>CCSS.ELA-LITERACY.RH.9-10.7</i>) One Child Policy mini-research, comparing sources (<i>CCSS.ELA-LITERACY.WHST.9-10.5</i>)

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