

# Competency Education Implementation: Examining the Influence of Contextual Forces in Three New Hampshire Secondary Schools

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*Competency education, a K–12 reform aimed to ensure that all students meet high expectations, requires that students demonstrate mastery of competencies to advance and earn credit, typically through assessments where students apply knowledge. Students receive more time and possibly personalized instruction to demonstrate mastery if needed. Competency education demands changes to traditional practices, including scheduling and grading. This qualitative case study describes how three districts in New Hampshire implemented this reform in secondary schools. Findings reveal that despite over 6 years of progress at each site, the reform had not been fully implemented due to inertial, technical, normative, and political challenges. Changes to grading and assessment were particularly difficult to implement.*

**Keywords:** *competency education, education reform, qualitative research, secondary education, competency-based grading, assessment*

As states across the country look for ways to improve school effectiveness and ensure student readiness for postsecondary success, most have adopted legislation either requiring or allowing implementation of competency education (Sturgis, 2016). In competency education, students demonstrate mastery of a defined set of required competencies to advance and earn credit toward graduation, rather than completing credit requirements based on time spent in class or the traditional Carnegie unit. Typically, student progress is measured using assessments that require students to apply their knowledge, and students receive more time, and possibly personalized instruction, to demonstrate mastery if needed (Le, Wolfe, & Steinberg, 2014; Scheopner Torres, Brett, & Cox, 2015; Sturgis, 2016). The goal of competency education is to meet the needs of students more effectively by demanding student mastery of rigorous content and skills rather than measuring student learning by the amount of time a student has received instruction. Competency education demands that schools transform from a time-based system to a competency-based system. This article explores implementation efforts of districts that have been engaged in adopting the reform to explore how districts and schools have made this transition.

Competency education has garnered support because a competency-based approach seeks to directly address issues of inequity to ensure that all students—students with disabilities and students from disadvantaged and different racial, ethnic, and linguistic backgrounds—meet high expectations to prepare them for postsecondary success (Lewis et al., 2014; Sturgis, 2017). Supporters also argue that competency education incorporates many of the practices that learning-science research indicates improves student learning, including acknowledging and using student background knowledge for pacing instruction (e.g., Bransford, Brown, & Cocking, 2000), using formative assessment and mistakes as learning opportunities (Bransford et al., 2000; Dweck, 2006), establishing intrinsic motivation for learning (e.g., Pink, 2009; Priest, Rudenstine, & Weisstein, 2012), and emphasizing assessments that measure application and deeper learning rather than basic skills (e.g., Darling-Hammond, 2009; Silva, White, & Toch, 2015).

Although many see promise in competency education, converting to a competency-based system is a massive undertaking (Freeland, 2014; Sturgis, 2016). Many states have policies allowing districts and schools to adopt



competency-based approaches, but these range from allowing credit recovery to be based on demonstration of mastery in states like Kansas and New York, to requiring complete transformations to mastery-based approaches to learning for all students in New Hampshire and Maine (Silva et al., 2015; Sturgis, 2016). Research finds that within and across districts and schools, there lacks a clear definition of the reform, including consistent approaches to using competencies to guide instruction, assessment, and grading (Freeland, 2014; E. Haynes et al., 2016; Ryan & Cox, 2017; Scheopner Torres et al., 2015; Steele et al., 2014; Stump & Silvernail, 2015). More research is needed on implementation to guide practice and policy by gaining a better understanding of what this implementation process can look like and critical elements in adopting the reform (e.g., Freeland, 2014; Ryan & Cox, 2017).

The purpose of this article is to provide insight into implementation efforts in districts that have been working to adopt competency education in their secondary schools for at least 3 years, including close examination of changes in policy and practice as well as assessment practices in a competency-based model. A literature review offers context of the reform's history and definition as well as results from prior studies on implementation. The study's theoretical framework, the zone of mediation (e.g., Welner, 2001), is then described. This descriptive framework was used to examine how different influences or forces in each school had an impact on implementation. Next, the results of the study are discussed, which detail difficulties districts faced, including struggling against inertia and the established culture of the school communities, dealing with technical issues specifically related to teacher time and student information systems, addressing normative beliefs about whether all students can achieve, and changing school policies in accordance with a competency-based approach. The findings underscore the paradigm shift that is required among administrators, teachers, students, and families to implement competency education. A discussion section explores questions these results raise about how districts can work to achieve the reform's intended purpose of greater educational equity for all students. Implications for practice, policy, and research are presented.

## Literature Review

### *Defining Competency-Based Learning*

Competency education dates back to progressive education in the 1900s and, more recently, the mastery learning movement from the 1970s to '80s (Le et al., 2014). Recent policy initiatives, however, have meant a resurgence of this approach to learning and assessment, with 44 states reported as having adopted policies that allow students to earn credit based on demonstrated mastery (Sturgis, 2016). Conceptual

clarity has been a long-standing issue with this reform (e.g., Spady, 1977), and a number of terms (e.g., *competency-based*, *proficiency-based*, *standards-based*, *outcomes-based*, *mastery-based*) and definitions are used when referring to current competency approaches, yet there are some essential components (e.g., E. Haynes et al., 2016; Le et al., 2014; Scheopner Torres et al., 2015). One is the competency-based model, where students must demonstrate mastery of agreed-upon competencies (also known as proficiencies, standards, or objectives) in order to earn credit and graduate (e.g., Bramante & Colby, 2012; Le et al., 2014; Patrick & Sturgis, 2011; Spady, 1977; Sturgis, 2016). The emphasis is on learning and allowing students to progress through the curriculum at different rates. Competencies are another essential component. Rather than focusing on discrete skills and concepts, competencies are intended to be clear, transparent, measurable objectives that define the content, skills, and dispositions (often including "soft" or non-cognitive skills, like responsibility and persistence) that are important across subject areas and that prepare students for college and career. Competencies should demand mastery of deeper levels of knowledge and complex skills (e.g., Bramante & Colby, 2012; Le et al., 2014; Patrick & Sturgis, 2011; Silvernail, Stump, Duina, & Gunn, 2013; Spady, 1977; Sturgis, 2016).

Beyond these components, competency education approaches can include a range of related so-called student-centered practices (e.g., Wolfe, Steinberg, & Hoffman, 2013), including competency-based grading, personalized instruction and multiple pathways to graduation, and authentic approaches to assessment and performance assessment. For example, to monitor student progress, competency-based grading is often used to communicate student progress. In competency-based grading, students receive grades on required competencies for each course rather than a single overall course grade. Evaluation of mastery of content and behavior (i.e., attendance, responsibility, perseverance) are separated, with students receiving grades for each. Students are also offered multiple opportunities to demonstrate mastery if needed (e.g., Guskey, 2011; O'Connor & Wormeli, 2011).

Defining competency education is complex because in practice, the reform often exists on a continuum, as districts implement this approach in ways that suit their communities' needs (Freeland, 2014; E. Haynes et al., 2016; Priest et al., 2012; Sturgis, 2016) and elements of this reform are implemented over time. Competency education presents a departure from many deeply ingrained structures of how schools are run and the "grammar of school" that has been established since common schools began in the United States (Tyack & Cuban, 1995). Thus, implementation takes considerable effort and time, and many districts and schools phase in elements of the reform over a multiyear period

(e.g., Freeland, 2014; E. Haynes et al., 2016; Stump & Silvernail, 2015).

### *Implementation of Competency Education*

Empirical research on competency education is extremely limited, particularly in terms of impact of competency education on student outcomes and implementation (e.g., Ryan & Cox, 2017; Sturgis, 2016). Studies that have tried to examine student outcomes have encountered difficulties given the different definitions of competency education (e.g., Steele et al., 2014; Zeiser, Taylor, Rickles, Garet, & Segeritz, 2014). Studies, do, however, indicate several elements that are critical to implementation and directly relate to the research questions for this study: changes in policy, practice, and assessment (e.g., Le et al., 2014; Priest et al., 2012; Sturgis, 2016). Competency-based approaches require structures and instructional approaches that allow students to learn at their own pace. Teachers must differentiate instruction and allow students to “move on when ready,” with some students taking more or less time than others. This presents a “significant hurdle” because teachers rank differentiation of instruction as a professional challenge (Silva et al., 2015, p. 26). Studies exploring questions about changes to policy and practice have found that while the curriculum may be aligned to competencies, many districts still adhere to traditional time-based structures, and students continue to advance annually with their grade-level peers (Freeland, 2014; E. Haynes et al., 2016; Stump et al., 2016). Competency-based and student-paced instruction presents a new role for teachers as “designers, facilitators, coaches, and mentors” who seek to develop intrinsic motivation among students (M. Haynes, 2013, p. 7; see also Laine, Cohen, Nielson, & Palmer, 2015; Steele et al., 2014; Sturgis, 2016). Students have a new role, as well, and must take ownership of their learning, focusing on mastering competencies and their own growth as learners (Kirk & Acord, 2010; Scheopner Torres et al., 2015; Sturgis, 2016).

Another critical element to implementation is assessment. Competency education relies on assessment systems that are aligned to the competencies and are used to measure student progress toward mastery and guide instruction (e.g., Freeland, 2014; M. Haynes, 2013; Priest et al., 2012; Silvernail et al., 2013; Sturgis, 2016). Adopting this approach requires teachers to “rethink the role of assessment” (Freeland, 2014, p. 17) and work together to come to a shared understanding on how to determine proficiency and what constitutes sufficient evidence of mastery (Bramante & Colby, 2012; Freeland, 2014; E. Haynes et al., 2016; Stump, Doykos, & Fallona, 2016; Sturgis, 2016). Allocating time and professional development for educators to engage in this kind of work is critical but also a challenge (Le et al., 2014; Scheopner Torres et al., 2015; Stump et al., 2016).

### **Theoretical Framework**

This study used the descriptive framework of the zone of mediation (sometimes known as zone of tolerance) to examine different contextual influences on implementation of competency education. This framework focuses on how the school context, with its own history as well as “competing beliefs, ideas, and interests,” exerts forces on change initiatives (Welner, 2001, p. 100; see also Boyd, 1976; McGivney & Moynihan, 1972). *Force* refers to the broad range of direct and indirect influences at the local, regional, national, and even global levels that can affect schools and how they address reforms, such as influential people and groups, social movements, events, and legislation or court decisions. School officials typically enact policies that are aligned with perceived values and expectations of the local community because policies outside of this zone of mediation often result in controversy and opposition. By taking these forces into account, policymakers and administrators can shift the zone of mediation so community members are more accepting of an education reform (Boyd, 1976; McGivney & Moynihan, 1972; Welner, 2001).

Welner (2001) identified four forces that must be considered in education reform efforts: inertial, technical, normative, and political. Inertial forces are the habits, customs, and routines established within a particular school. This is often referred to as the “school ethos” and could be characterized as “this is how we have always done things.” Organizational structures that are instrumental to the functioning of the school, including scheduling, curriculum, and how resources and materials are allocated, are referred to as technical forces. Normative forces are beliefs and values about concepts such as intelligence that are implicit within the school culture. Finally, political forces are the demands and concerns of states, districts, schools, teachers, and families. These forces vary depending on a number of factors in the community, including size, socioeconomic status, and the relationship between the community and the school (Boyd, 1976; McGivney & Moynihan, 1972). For example, in larger and urban districts, there are often divergent “wants” within the community, and implementing major change can be time-intensive; whereas in smaller districts, “opposition is less frequent, but more likely to be potent” (Boyd, 1976, p. 548).

Although addressing technical or structural obstacles is necessary, Welner (2001) argues that practitioners and researchers too often focus on these when implementing education reform initiatives and neglect powerful normative and political challenges, which “can devastate reform efforts” (p. 13). This is especially true for reforms seeking to establish equity, like competency education, as these reforms face normative beliefs about race, socioeconomic status, and culture (Boyd, 1976; Welner, 2001). Competency education is a different approach from traditional scheduling, curriculum, assessment, and grading practices and is

based on assumptions that all students can and should meet high expectations. The zone-of-mediation framework allows for close consideration of these forces and insight into how they affect implementation.

### Method

The purpose of this article is to explore implementation of competency education in secondary schools that have been working to adopt the reform for at least 3 years. This article features findings on two of four research questions that guided a larger study on competency education implementation (see online Appendix A for all four research questions):

1. What changes have districts made in policy (e.g., graduation requirements, scheduling) and practice (e.g., curriculum, instruction, assessment)?
2. How have districts assessed student progress in a competency-based model?

To examine implementation of competency education, the research team used a qualitative, multiple-case study design. The study was funded by the Institute of Education Sciences through the Regional Educational Laboratory (REL) program and was facilitated by the REL Northeast and Islands. The study's research design, sample selection, data collection and analysis procedures, and final write-up were all developed in partnership with alliance members and an advisory committee recruited through the REL that included school and district administrators, administrators and staff from the state department of education, and researchers.

### Sample

Three New Hampshire districts participated in this study. The case study was conducted in New Hampshire because the state requires all districts to implement competency-based credit options for all subjects and has a number of supports at the state level to assist districts in implementing this reform (Freeland, 2014; Marion & Leather, 2015; New Hampshire Department of Education, 2017). Although adopting competencies is a legislative mandate, districts determine how to implement the reform and have taken different approaches in their efforts, providing useful insight into a range of implementation efforts.

Researchers used purposive, reputational case sampling (Miles, Huberman, & Saldaña, 2014) by seeking recommendations from experts in the field to determine which districts should be included in the study and by using a designee at each site to identify potential participants who would be knowledgeable and able to answer questions related to the study. The goal was to identify participants that offered "potential for learning" rather than representativeness

(Stake, 2005, p. 451). Sixteen districts in New Hampshire met the initial intensity-sampling (Patton, 1990) criterion of having implemented competency education for at least 3 years at the secondary level. Purposive sampling was used to identify three districts that represented a range of community factors deemed important in the zone-of-mediation framework: size, socioeconomic status, and relationship between the community and the school. Researchers gathered the following information for each of the 16 districts: number of schools in the district and total student enrollment (size); demographic characteristics of students served, including free-/reduced-price lunch eligibility, race-ethnicity, and limited English proficiency (socioeconomic status); and location type (urban, suburban, rural; community/school relationship). Members of the REL alliance, the study's advisory committee, staff from the New Hampshire Department of Education, and research team members used these data, along with knowledge of each district, to select sites for the study (see online Appendix B for information on district characteristics).

At each of the three sample sites, researchers conducted interviews with administrators, including principals, district administrators, and lead teachers; along with the information technology or data systems specialist for the district; students; family members; teachers; and school board members. A total of 27 individual and focus group interviews were conducted with 34 participants (see Table 1).

### Data Sources and Collection

*Interview collection.* Semistructured individual and focus group interviews were conducted using interview protocols developed by adapting existing protocols (Scheopner Torres et al., 2015; Silvernail, Stump, McCafferty, & Hawes, 2014) and piloting each protocol with individuals not in the study sample. Revisions were made based on results from the pilot interviews as well as feedback from REL alliance and advisory committee members (see online Appendix C for interview protocols). Each interview question was mapped onto the study's research questions (see online Appendix D). Interview protocols were tailored according to the type of participant and each site to capture relevant information.

*Document collection.* Researchers gathered documents related to competency education from each of the sites by conducting searches of district websites. These were used to inform the interview protocols by providing context to the interviews and ensuring that questions were asked about pertinent changes in policy and practice at each site. For example, some sites had competencies directly related to noncognitive skills whereas others did not. Researchers were able to ask questions specific to these competencies. In addition, researchers asked participants for materials related to the research questions and artifacts that were referenced

TABLE 1  
*Interviews Conducted*

Site	Administrators	Teachers	IT/data specialists	School board	Students	Parents/ families	Total
District 1	2	3	0	3	3	2	13
District 2	2	3	1	2	3	1	12
District 3	2	2	1	1	2	1	9
Totals	6	8	2	6	8	4	34

*Note.* District 1 did not have a dedicated IT or data systems specialist position. IT = information technology.

in interviews. Documents collected included student/family handbooks, assignments, assessments, school board policy, descriptions of units, report card templates, and lists of competencies for each course.

#### *Data Analysis*

All interview data were transcribed verbatim and subsequently coded using ATLAS.ti coding software. To establish the codes, selected interviews were coded by all research team members using a deductive approach with a set of a priori codes based on key domains of the research questions and competency education (Coffey & Atkinson, 1996; Glaser & Strauss, 1967; Goetz & LeCompte, 1984; Morrow & Smith, 2000; Patton, 2002). During this initial coding process, researchers also identified other codes to represent important findings, utilizing an inductive data analysis process. Another set of selected interviews was coded with the newly identified codes. After coding, research team members met to identify and resolve any inconsistencies, establish additional coding rules, and revise the codebook as needed (see online Appendix E for codes). The coding process was iterative to ensure that codes were validly and consistently applied (Charmaz, 2000; Erickson, 1986). Once the codebook was created, one project team member coded each interview, and a second team member reviewed the coding to enhance validity and reliability.

After all the interviews were coded, all quotes for each code were reviewed, with team members reading all material for one or two major codes (e.g., changes in policy and practice, communication strategies) and all related subcodes. Researchers identified themes within each code across the sites and participant roles by noting similarities, major differences, and interesting findings that either mirrored or stood in contrast to previous research. Data were reorganized according to broader analytic interpretations, providing the “core” of the emerging assertions (Coffey & Atkinson, 1996; Glaser & Strauss, 1967). The themes from each of the codes were shared with the group. From this, researchers made connections across the themes for each code, integrating and combining themes as they related to one another in an inductive, selective coding process (Glaser & Strauss, 1967). These emerging assertions were discussed

and agreed upon by all team members. Each assertion was constantly compared to the data by rereading quotes for the themes. Researchers also compared the assertions to each site to identify possible discrepancies and holes in the explanatory power of the identified assertions (Morrow & Smith, 2000). The data were analyzed for theoretical coherence, and researchers checked assertions against the documents collected to ensure accuracy and relevance (Coffey & Atkinson, 1996). The resulting findings were compared to the zone-of-mediation theoretical framework in a deductive process to further reorganize and develop the findings. Another round of constant comparisons and review of the data was conducted to test the findings.

#### *Limitations*

Districts and participants in the study were identified who had experience implementing this reform because they offered insight into the research questions (Stake, 2005). This study, therefore, relied on data from a purposive, reputational sample. Thus, the external generalizability of the findings is extremely limited. The purpose of this study was not to provide a representative understanding of implementation across New Hampshire; rather, the goal was to offer detailed descriptions that allow readers to understand elements of implementation of this reform in a deeper way (Stake, 1994, 2000; Yin, 1989, 2006).

This project relied on interview and document data. Insight into actual practice, therefore, is limited. In New Hampshire, districts are required to adopt competency education. Administrators, teachers, and school board members, therefore, may have been guarded in their responses to questions about their implementation efforts. The analyses sought to create a true account by using participants’ words as much as possible, enhancing the validity of the findings (Miles & Huberman, 1994). The report was shared with each of the sites to conduct member checks and participant validation (Miles & Huberman, 1994; Patton, 2002; Stake, 1994). Each of the sites gave detailed feedback that was incorporated into the findings. At each stage of the study, REL alliance members, the advisory committee, and members from the New Hampshire Department of Education reviewed the project. Ongoing collaboration with these members helped to ensure

credibility and trustworthiness of data collection, analysis, and presentation of the findings.

## **Results**

This study sought to identify changes in policy and practice related to competency education implementation efforts and how districts assess student progress in a competency model. Changes in policy and practice included defining competencies for each course and aligning curriculum, assessment, and grading to these competencies. In all three districts, policies related to graduation requirements had not changed; rather, the criteria for graduation had shifted to reflect the competency-based model of earning credit. One district had made changes to scheduling to allow dedicated time during the school day when students could receive additional instruction or engage in enrichment activities. The new schedule was put in place in efforts to allow more personalized instruction and individualized pacing of student learning. Another district reported making changes to athletic-eligibility requirements as a result of the new grading policies. Assessing student progress in a competency-based model resulted in changes in policy and practice, including adopting competency-based grading, separating content from behaviors in course grades, and in some districts, replacing the 100-point scale with a scale that included a limited number of categories, such as proficient, partially proficient, in progress, and not yet assessed. Assessment policies and practices also included reassessment and recovery options and a focus on summative assessments that required deeper levels of thinking.

Although each site had made changes in policy and practice in adopting competency education, they described their efforts to execute several key elements of this reform—progression through demonstration of mastery of competencies, competency-based grading, and personalized learning—as still in progress. Districts reported that they were still working to address inertial, technical, normative, and political forces so they could implement competency education fully. Some policies and practices had been implemented successfully, including defining competencies and aligning instruction and assessment to those competencies. Cross-case analyses revealed that districts faced particular challenges when implementing competency-based grading as well as reassessment and recovery policies, key elements in assessment practices for their competency-based approach. Findings on each of these are detailed below, including details on the forces districts faced and how they worked to address them.

### *Defining and Aligning Instruction to Competencies*

All three districts reported that they had defined competencies for each secondary course and had made progress aligning instruction, assessment, and grades to those competencies.

Administrators and teachers reported that the content covered in the curriculum had not changed substantially. Instead, adjustments had been made to the organization, delivery, and assessment of the curriculum. A teacher explained how competency education helped align and hone the curriculum and, in turn, improve instruction and student learning:

Competency-based instruction has helped me not only in the process of reviewing my curriculum—to look at skills in sequence on a macro level and then boil it down to a micro level—but it also has allowed me to look at the vehicle that drives that curriculum. What competencies am I addressing in each unit? So, it really gives a little bit more of a focus on what it is that we're instructing.

One technical obstacle was finding the time for teachers to engage in the important work of defining or refining the competencies and aligning instruction, assessment, and grades to these competencies. Districts attempted to overcome this challenge by engaging teachers in substantive conversations about curriculum and assessment through combining competency education implementation efforts with implementation efforts for other reform initiatives and providing ample paid time for teachers to work together. For example, all three districts mapped reform initiatives to identify ways in which competency education overlapped with other efforts, like school accreditation applications, Common Core State Standards adoption, and district-required curriculum revisions. A district administrator explained, “We went through and showed that everything was interrelated.” Although the work was overwhelming, seeing how the efforts were integrated helped teachers see the long-term benefit. All three districts used federal, local, and grant money to pay teachers for their time and provided opportunities to do this work over the summer and during the year. Districts also relied on grant money to bring in content experts and training on initiatives related to competency education, including developing performance and project-based assessments. Schoolwide professional development time was dedicated to further implementation efforts. For instance, each site discussed how it used all its professional development time during the school year to develop competencies. In addition, each district utilized department and faculty meetings as ways to make time for teachers to work together on competency education and share their expertise. One important note is that the focus was paying and empowering teachers to do this work. Although experts were brought in, it was at the request of teachers, and the emphasis was giving teachers time to do the work, treating them as professionals.

### *Competency-Based Grading*

All three districts had adopted and were working to fully implement competency-based grading to assess student progress where students receive grades for each required competency in the course. Converting to competency-based

grading was a major change from the grading system to which teachers, students, and families were accustomed. A school board member explained,

The old system is something everybody knows: The parents know it, the grandparents know it, everybody grew up with the same system. Everybody knew that you could be doing B work in class, and if you did an extra report or something like that, you could push it up to an A minus.

As a result, secondary schools in all three districts responded to these inertial forces by keeping some traditional grading elements, including having an overall grade for each course in addition to grades for course and schoolwide competencies. This practice was put in place to ease concerns about postsecondary implications, specifically whether competency-based report cards would disadvantage students applying for postsecondary programs and scholarships, and the strong normative practice of using grade point averages (GPAs) to compare student performance and rank students. A school board member said there was concern with the transition to competency-based grading practices “that somebody’s going to lose out, or somebody’s not going to be ranked quite as high and it’s not going to look quite as good on their college applications, and those sorts of things.” A teacher from the same district explained that “they’re afraid to be too different from the traditional, so this is our compromise for now.”

There were some disadvantages to this approach of blending traditional and competency-based grading practices, particularly in terms of clearly communicating student progress. For example, students and families reported confusion with the policy that in order to earn course credit, students needed to maintain a passing overall grade in the course as well as demonstrate mastery of each of the course competencies. In two of the districts, it was possible to get a passing grade in a course but still not earn credit because not all the required competencies for the course had been mastered. Students explained this would happen when there were only a limited number of assessments for a single competency and students performed poorly on those assessments. When figuring the final grade, these several assignments would be averaged with other, more heavily weighted assignments from the course, resulting in an overall passing grade. Although failing those assessments did not have a major impact on the overall course grade, it did mean that students were failing a competency and, therefore, failing the course. In the third district, it was not possible for a student to receive a passing grade unless the student mastered all the course competencies. A participant who had attended a conference with school leaders from across the state commented that many were grappling with this:

There are many districts who are competency grading but you could still pass a class without passing all your competencies, or you can pass all your competencies and not pass the class. So, there’s a big

disconnect still with what each of those means and how they should be together. So, I think that’s where everybody’s struggling.

Administrators and teachers in all three districts believed that maintaining traditional grading practices, like an overall course grade, was temporary. They hoped that these policies and inertial and normative beliefs might shift as more come to understand the competency-based grading approach better.

Competency-based grading necessitates a new approach to assessment and grading where each assignment must be directly aligned to measure course competencies. One of the biggest technical challenges in implementing competency-based grading was the student information system used to track student progress in this new way. Companies had not created student management systems for a competency-based approach, which meant that districts could not purchase a system made to accommodate this type of grading. Each district, therefore, was working to adapt its existing student information system, which required investments of time and money prior to and during implementation. Changing the existing system often proved difficult, especially for displaying competency-based grading information effectively. This aspect was particularly troubling because districts were still trying to communicate how this new approach to grading worked. Providing clear grading reports was critical. All three districts were still working to address this technical challenge by continuing to adapt their existing systems.

#### *Reassessment and Recovery Assessment Practices*

Participants in all three districts reported that the most substantial change to assessment practice since implementing competency education was offering secondary students the opportunity to retake assessments if they failed to master a course competency or did not perform as well as they wanted on a summative assessment through reassessment and recovery. In all three districts, the process was similar: Students were expected to meet with the teacher to identify gaps in learning and then submit a plan detailing how the student would address the gaps and demonstrate mastery of the identified competencies. Reassessment took place within the course and had many forms, including alternative versions of the previous assessment and new forms of assessment. Recovery options often occurred after students had failed a course and included online learning and summer school programs. In both reassessment and recovery, the onus was on the student to take responsibility for developing a plan to relearn the material. A teacher explained, “It’s really about empowering those students to take responsibility and write their own proposal and plan—with teacher guidance.” For all three districts, reassessment and recovery were the primary way they were able to implement flexible, student-paced learning.

Although administrators, teachers, students, and families across the sites described benefits and were in favor of reassessment and recovery policies, there were several concerns. Students from across all three districts reported that reassessment was unfair to students who performed well on the initial assessment. Implicit in these arguments were normative beliefs about whether or not everyone should be able to earn top grades. There was a particularly interesting exchange between two students during a focus group interview. One thought it “wasn’t fair” that students were using the reassessment process to boost GPAs, whereas another student in the group disagreed:

Student A: People’s GPAs are messed up because of [reassessment]. So, people would bomb a test—or not even bomb a test—they’d get a 90 on a test, [then] they would reassess it and get a 100. And then, all of the sudden they get a 4.0 that year, and it’s like, well, you reassessed every test that came your way. It totally wasn’t fair.

Student B: The thing that’s weird about it, though, is in a way, I kind of agree with being able to get whatever grade you get if you reassess, because I’ve reassessed things and gotten 100 before this, but I relearned it. I had to relearn it. Just because it took me longer doesn’t mean I don’t know it as well as anyone else.

Administrators and teachers reported that there was often this type of resistance to reassessment from high-achieving students. One administrator talked with the student body class president during a student council meeting and challenged these notions about fairness by asking, “Isn’t it about learning?” Although the administrator reported this student “came around” and believed reassessment was fair and helped more students learn, many still questioned the practice. During an interview, a parent from another district was grappling with the idea that everyone could theoretically get an A in this system:

I appreciate that if everybody recovers then everybody graduates with an A. Then you got to look at, can you really have that many kids graduating with an A? But I’m not a bell curve fan at all, because I think bell curves don’t talk about your own individual abilities. They throw you into a lump with the group. But I think that if the recovery is done so you can actually learn the material—you get competent—hopefully you’ll feel better about school. So, I think in theory it’s a good idea.

In all these exchanges is the debate about whether students who learn the material more quickly should earn higher grades than those who take longer. It was clear that teachers, students, and families were struggling with the concept of everyone being able to earn top marks and whether and how that would devalue grades. Both of these represent challenges to normative beliefs about learning and grades. Districts were working to tackle these normative assumptions through one-on-one conversations with

students and families as issues arose. Administrators were hopeful that word would spread, leading to greater understanding about reassessment policies and how they benefit student learning. Teachers had a large role in helping students and families understand the policy due to their direct contact with students and families. Teachers from all three districts reported that they spent a great deal of time explaining new policies and practices to students and that initially parent–teacher conferences were dedicated to explaining competencies, new grading and assessment policies, and the new report card. One district instituted a student group that would explain new policies, including reassessment, to classmates during advisory periods. In another district, the principal would have discussions with the student body and select classes as needed to explain the reassessment policy and to prompt students to take ownership of their learning if they were not taking advantage or reassessment.

Teachers and administrators in all three districts voiced a slightly different concern about fairness: Students taking advantage of reassessment were often high-performing and highly motivated students looking to increase their grades rather than those students who had failed to demonstrate mastery. One district worked to curtail the number of high-performing students taking advantage of reassessment by revising the reassessment policy so students could only earn up to a prespecified maximum grade. An administrator explained, “A couple of things weren’t working, like kids that were going for valedictorian. They were reassessing and reassessing because they needed that one point to get into the number-one spot. So, we put some limits on certain things.” A parent explained that some high-achieving students took advantage by “blowing off” assessments because they knew they could reassess. A school board member said that students who knew the content well enough could pass their summative assessments and “slack everywhere else” because they could reassess to improve their overall grade. The new policy helped to discourage these behaviors.

Administrators and teachers reported that they were still working to address the inertial, technical, normative, and political forces related to motivating students to take ownership of their learning, especially students who could benefit most from reassessment. For example, participants from two of the districts reported that meeting individually with students to develop reassessment and recovery plans and creating new assessments was a significant investment of time that, although often valuable, was difficult to manage, creating a technical hurdle. Competency education not only demanded more of students in terms of taking ownership of their learning, but it placed demands on teachers, as well. A teacher from the district that changed the reassessment policy so students could earn a maximum grade explained, “I was in favor of limiting the reassessment—it was a practicality issue. It was just too [time-intensive].” Related, a school



board member from another district discussed the feasibility of trying to have all students meet every competency: “It becomes a question of where does the teacher find all that time if up to 40% of his or her class are not meeting all the competencies? Where do they find the time to work with all of those students?” The school board member went on to discuss normative beliefs that lie at the foundation of this:

Quite frankly, at some point you have to come to grips with the fact that you’re never going to get to 100% proficiency. . . . And that practical aspect of how you deal with that became, I think, an issue for us. And we still don’t have the answer.

This presents issues of coming to consensus about goals and what constitutes mastery as well as normative forces, including beliefs about whether or not all students can and should achieve at the highest levels. Without agreement on these issues, it is difficult to move the zone of mediation and implement competency education.

### Discussion

Competency-based and other student-centered approaches to learning are gaining increasing interest, but there is relatively little empirical research on implementation of competency education and its impact on student outcomes (e.g., Ryan & Cox, 2017; Sturgis, 2016). This study provides needed research on implementation, including how districts experienced success defining competencies and aligning instruction, assessment, and grading to those competencies. Districts, however, were having to make compromises to address technical, political, and especially normative and inertial forces, like beliefs about grades. These compromises led to unintended consequences and limited the ability to meet the needs of all students. Although the findings of this study are limited, they do offer some implications for practice, policy, and research to guard against these outcomes.

#### *Implications for Practice*

Competency education boasts a laudable and needed goal: all students achieving mastery of required content and skills. If competency education is to meet this goal, then districts must disrupt inertial, technical, normative, and political forces that have led to achievement gaps between high-achieving and struggling students. One of the ways competency education seeks to do this is by emphasizing metacognitive and self-regulation skills that allow students to monitor their progress, reflect on their learning, and approach learning difficulties as opportunities or from a growth mindset (Curl, 2014; Le et al., 2014; Lewis et al., 2014; Sturgis, 2016). These are skills that many believe are critical to postsecondary success (e.g., Conley, 2014; Nagaoka & Holsapple, 2017). Although these skills are important in traditional school settings, they are vital for

success in a competency-based approach. Research indicates that high-performing students often already have these skills, whereas struggling students and students from disadvantaged and low-income backgrounds frequently do not (e.g., Hinton, Fischer, & Glennon, 2012). There is concern that competency education, if not implemented well and with concentrated attention toward equity, could increase achievement gaps if groups of students move disproportionately more slowly through the curriculum (Curl, 2014; Le et al., 2014; Lewis et al., 2014; Silva et al., 2015; Sturgis, 2017). Thus, districts must carefully consider what skills and dispositions should be added to the curriculum and explicitly taught and practiced as part of implementation efforts.

Ensuring that all students had the metacognitive and self-regulation skills to take ownership of their learning was something districts in this study had not yet accomplished. Similar to other research findings, participants reported that high-achieving students were able to use competency-based approaches to relearn and excel, whereas others did not (e.g., Curl, 2014; Lewis et al., 2014; Steele et al., 2014; Stump et al., 2016). In fact, high-performing students were so adept at persisting in their academics that they were able to “game the system,” as an administrator described, to improve their grades and put in effort only when necessary, behaviors in direct opposition to the reform’s intended goals. Although participants reported there were additional personalized supports and opportunities to relearn and reassess, they also raised concerns about students in the middle and whether struggling students were getting all that they needed. Districts must ensure that all students have the individualized supports needed to master required content and skills to avoid increasing the divide between high-achieving and struggling students (Curl, 2014; Le et al., 2014; Lewis et al., 2014; Silva et al., 2015; Sturgis, 2017). Similar to long-standing discussions surrounding educational equity, this likely will result in some students receiving more support and resources than others (e.g., Nordstrom, 2006), which could spark controversy and normative forces that make it difficult to shift the zone of mediation. Not only are there powerful normative forces against a redistribution of resources, districts in this study were developing policies and practices while implementing the reform—the equivalent to “building the plane while flying it.” They were consumed with the *what* and less with the *how*. Districts need to find ways to focus more on the *how* so that all students receive the scaffolding needed to gain the metacognitive and self-regulation skills necessary for success in a competency-based model. Having more models of implementation that can be adapted to each school community’s needs could be helpful.

Results from this study indicate that engaging teachers in important discussions about their practice and integrating competency education implementation efforts with other reform initiatives were ways to address technical forces of finding time for teachers to do this work. Consistent with

findings from other implementation studies (e.g., Stump et al., 2016), participants reported that collaborating to define competencies, align instruction and assessment, and agree on grading procedures was beneficial though time-consuming. Integrating competency education implementation with other reform initiatives and empowering teachers to lead efforts with paid time to engage in this work were ways that districts were able to surmount this challenge, approaches that might serve other districts working to implement competency education. Another strategy districts in this study used was a willingness to make adjustments when there were unintended consequences. Districts listened to concerns and used student assessment results to inform policies and practice. This helped to maintain a positive zone of mediation.

### *Implications for Policy*

The findings from this study reiterate research results about the need for conceptual clarity and a clear definition of competency education (e.g., E. Haynes et al., 2016; Ryan & Cox, 2017; Spady, 1977). The New Hampshire Department of Education has provided guidelines and support but has allowed districts to implement competency education and structure policies according to local needs. This type of ground-up rather than top-down, more prescriptive approach has its benefits, including greater educator ownership of the reform (Sturgis, 2016). Consistent with findings from other studies in the state, offering districts this type of “latitude” has led to a variety of implementation efforts and different definitions of competency education (Freeland, 2014). The lack of a common language places severe constraints on districts and schools to address inertial, technical, normative, and political forces. For example, companies may not be willing to invest in developing a student information system for competency education because there is no common definition or approach.

Perhaps more importantly, lack of conceptual clarity can inhibit the ability of national, state, and district leaders to build a case for why this reform is necessary to support schools in their efforts to confront powerful normative forces. As evidenced in this study and other research on competency education, transitioning away from time-based structures and traditional grading practices is difficult for teachers, students, and families because it is different from what they have always known (e.g., Bramante & Colby, 2012; Laine et al., 2015; Stump et al., 2016; Sturgis, 2016). Although the costs of implementing competency education are significant, such as teacher time to accommodate reassessment practices and investment in student information systems, this reform could be valuable in addressing achievement gaps and shifting the focus to learning that includes not just content knowledge but also developing life-long learning skills. Compelling messaging at state and national levels could bolster local efforts trying to convince their communities this reform is necessary and valuable

(Laine et al., 2015). This seems obvious, but participants reported this as a need, especially as they faced barriers to implementation, like the perceived unfairness of new grading policies. Many were often more concerned about grades rather than mastery of content. Finding ways to focus on learning and equity of outcomes, including how this reform can support all students, would help establish a positive zone of mediation and might even create demand for competency-based approaches (Bramante & Colby, 2012). More than other reform initiatives, like educator evaluation, which faces forces from teachers and administrators, competency education casts a much wider net in terms of direct impact. Shifting the zone of mediation is difficult because there are more inertial, technical, normative, and political forces at play and because of the nature of the reform itself, which poses departures away from how schools have been functioning. Having a compelling message for why schools are doing this is critical.

### *Implications for Research*

Further research is needed on the impact of competency education on student outcomes and the approaches necessary to ensure that all students are supported in a competency-based approach. Most critical is research that answers the first question: Does competency education improve student outcomes and result in greater educational equity? Clear indicators of improved student outcomes among all students could build a positive zone of mediation and make a clear case for why districts should engage in such a “far-reaching” reform (Freeland, 2014) and whether the reform is necessary given the demands and investments in time and money discussed above. Related, research is needed on whether the reform results in deeper learning (e.g., Sturgis, 2016). Critics highlight that there is a danger in defining competencies because it could lead to a focus on individual skills and establishing required minimums that do not push students to higher levels of performance or that could inadvertently become maximum performance levels (Silva et al., 2015; Spady, 1977). Without considered attention, competency education could become a checklist of criteria that students must meet to graduate rather than ensuring rich, student-centered learning experiences where individual needs and interests are carefully considered and used to improve outcomes.

One striking finding from this study is that many believed in working with students until they mastered required concepts and skills, but the discussion became contentious about how to grade in a competency model. People want all students to learn but still want to know who is best and how students rank. This often came as a surprise to districts. They thought they were in the zone of mediation with communities buying into the philosophy of competency education, but when there were consequences to this approach, including grades and even athletic eligibility,

they lost momentum and quickly found themselves at odds with the community. Districts had to balance practical aspects of implementation with the ideal of educational equity, often making compromises and not directly addressing these types of normative beliefs about student achievement. Research needs to examine the impact of this approach both in terms of implementation and student outcomes. Many key elements of competency education were not fully implemented in these districts, including student-paced advancement through the curriculum and aspects of competency-based grading, as is the case in many schools working to implement this reform (e.g., Freeland, 2014; E. Haynes et al., 2016; Stump et al., 2016; Stump & Silvernail, 2015). These compromises, however, limit the potency of competency education to achieve greater educational equity. They also led to beliefs and practices that were misaligned, which can cause “substantial challenges for implementation” (Stump et al., 2016, p. 37). For example, competency education holds that all students should be afforded the opportunity to succeed. Limiting the final grade students can receive on reassessment could be counter to this principle. Each of the districts in this study believed that these compromises were temporary, hopeful that they could create a positive zone of mediation and modify normative beliefs over time. Although there is evidence indicating this is possible (Stump et al., 2016), it is less clear how to change the beliefs of students, families, and community members. Further research is needed on whether this long-term approach to addressing normative beliefs will succeed and how to engage all members of the community. Longitudinal implementation studies are needed to capture this information. These types of long-term studies are needed to ascertain ongoing efforts given results in this study and others that implementation is often a multiyear process (Freeland, 2014; E. Haynes et al., 2016; Stump & Silvernail, 2015).

### Conclusion

States are concerned with not only increasing graduation rates but also ensuring that students have the skills and knowledge needed for postsecondary success, especially given evidence that suggests many students are entering college needing to take remedial courses (e.g., Sparks & Malkus, 2013) and that many students complete high school without the skills and knowledge needed for college or career (e.g., Hoffman, 2015). Many reformers have looked critically at the Carnegie unit with its “seat time” requirement and are more in favor of reforms that focus on learning requirements, including competency education. Transitioning from a time-based to a competency-based system is extremely complex, especially given the normative beliefs and assumptions that have guided public schooling in the United States since its inception. More research is needed, particularly on the effectiveness of this reform and

implementation. Studies on implementation, such as this one, can provide needed insight into whether and how districts are able to meet the challenges of changing those assumptions and meeting the goals of the reform.

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