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# PLANNING AND CHANGING

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**David Osworth & Kathleen Cunningham**

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**Krista M. Bixler, Noelle Balsamo, & Jennifer A. Sughrue**

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**Ethan Davis**

The Role of a Principal in Bridging the Gap Between Educational Policy and Theory

# *Planning and Changing*

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## IMPROVEMENT SCIENCE AND THE EVERY STUDENT SUCCEEDS ACT: AN ANALYSIS OF STATE GUIDANCE DOCUMENTS

*The Every Student Succeeds Act (ESSA) provides guidance and expectations to state education agencies. We examined the intersection of improvement science and ESSA through a qualitative analysis of the state guidance documents. Utilizing six principles of improvement as a conceptual framework, we identified three themes: improvement as an outcome; an emphasis on measurement; and a lack of improvement science terminology. This study contributes to the growing dialogue regarding improvement science's place in education policy.*

Keywords: education policy, ESSA, improvement science

### Introduction

Educational contexts across the United States are beholden to policies adopted at local-, state-, and federal- levels. Due to long-standing traditions of local- and state-controlled education systems, policies and practices vary across states despite having common policy rules to address. This is seen through the implementation of the Every Student Succeeds Act (ESSA, 2015), the most current reauthorization of the Elementary and Secondary Education Act (ESEA). ESSA is the successor of No Child Left Behind (NCLB) (No Child Left Behind Act of 2001) which required reporting and actions related to education reform and had difficult expectations to meet (Ravitch, 2010). ESSA's goals include: (a) setting high college and career readiness standards; (b) allowing state oversight for accountability and resource distribution for school improvement; (c) State Education Agencies (SEAs) using more evidence-based practices to drive school improvement; (d) encouraging the use of annual assessments in a way that is not intrusive to teaching or learning; (e) increasing preschool access for more children; and (f) providing resources for innovation for education reform with demonstrated positive results in improving education (Sharp, 2016).

Because ESSA's goals address topics of improvement, data, access, and educational resources, we argue there exists potential for educators at various organizational levels to engage with the tenets of improvement science—an arm of continuous improvement—in their practice. Improvement science leans on “cyclical rather than linear approach-

es, emphasize[s] collaborative over administrative research designs and focus[es] on formative data to guide improvement projects and initiatives” (Crow, 2020, p. 6). Improvement researchers (Hinnant-Crawford, 2020; Langley, et al., 2009) argue improvement can be understood as a model for testing change. Three fundamental questions of improvement ask: “What is the exact problem I am trying to solve? (i.e., What am I trying to accomplish?) What change might I introduce to solve it (and why)? How will I know that change is an improvement?” (Hinnant-Crawford, 2020, p. 1).

A growing body of research demonstrates ways improvement science is used in schools and districts (Hannan et al., 2015; Tichnor-Wagner, 2018). Even foundations such as The Carnegie Foundation for the Advancement of Teaching and The Gates Foundation have dedicated resources to improvement work in education, a notable observation for this study since Mitra stated, “foundations have become a major source of influence in educational policy at the national and state levels,” (2018, p. 54).

To what extent an improvement approach is encouraged in federal policy requirements, we examined how and where continuous improvement or improvement science was present in two ESSA policy output documents: the *Revised State Template for the Consolidated State Plan* (herein referred to as the *State Template*) and the *State Plan Peer Review Criteria* (herein referred to as the *Review Criteria*). We selected these as they directly impact state-level policy as each was required to develop and submit a plan to the federal Department of Education for review and approval.

The federal government’s level of involvement in matters concerning (SEAs) has ebbed and flowed for decades (Nelson & Weinbaum, 2009). For example, NCLB marked a time when the federal government asserted stronger oversight, prioritizing attention to education as vital for U.S. success in a global community (McGuinn, 2006). Similarly, ESSA positions education reform as necessary for increasing academic achievement across the nation (Mathis & Trujillo, 2016). Bryk and colleagues (2015) found chronic failure of education reform was impacted by the claim that in order to improve education, leaders must make immediate, sweeping changes. Examples of practices that work in specific contexts that fail to translate to broad school reform include small high school initiatives and rigorous teacher evaluation processes (Bryk et al., 2015).

Diverting from the large-scale change implementation paradigm, an improvement science framework offers a different approach, where educators dedicate efforts to understand the problem and create disciplined, incremental change to drive context-appropriate improvement (Bryk et al., 2015; Hinnant-Crawford, 2020; Langley et al., 2009). Indeed, improvement science has seen an increase in use by local educational professionals. Coupled with the notion that educational reform and practice are influenced by policy requirements, it is helpful to understand the extent to which federal policy (e.g., ESSA) aligns with current prac-

tice. Improvement science has the potential to create effective change and reform and forward equity work in education. Because improvement science focuses on seeing the systems, those engaged with this framework are “less likely to fall victim to deficit perspectives, blaming students and/or their communities for unwanted outcomes” (Hinnant-Crawford, 2020, p. 103). Similarly, researchers such as Bryk and colleagues (2015) and Biag (2019) detailed that improvement science operates from an understanding that our systems are working as designed to produce the results they yield. Thus, improvement science is a powerful tool for disrupting the status quo as it positions practitioners in their own organizational contexts to make systemic changes to yield more equitable results.

To better understand the connection between ESSA and improvement science we examined the following question: *To what extent do ESSA’s requirements for state compliance invite a continuous improvement or improvement science approach in their policy language?* In the remainder of this paper, we describe our conceptual framework rooted in the tenets of improvement science. We then offer a brief literature review, followed by our methods, findings and discussion, and some implications for policy, practice, and research.

## Conceptual Framework

Bryk and colleagues (2015) named six principles of improvement that anchor improvement work. The principles of improvement provided an analytic lens to examine to what extent a convergence existed between federal policies and the distributed guidelines for SEAs with improvement science. These principles, described in turn below, demonstrate the intersection of theory and praxis to illustrate ways improvement practices support quality, and equitable improvement.

### Principle 1: Make the Work Problem-Specific and User-Centered

Principle one implores improvers within an institution, organization, or system to focus on the user—the individual who is experiencing the area you want to improve. User-centered design approaches problems in a bottom-up fashion since it engages individuals tied closest to the elements leading to specific outcomes and offers information on the true aspects of persons’ roles (Bryk et al, 2015). This approach is paralleled in other frameworks such as design thinking where those who are the target audience for a product or experience inform its development to best meet users’ needs (Brown, 2009). In relation to policy, Bryk and colleagues (2015) argue that education policy has missed the mark on orienting its development process within a user-centered approach. To the extent policy is focused on the user and problem area is important because while policy may be created at the upper levels of our government, it relies on those at

the grass roots, in this case administrators, teachers, and other educational professionals, to carry it out (Fowler, 2013).

## Principle 2: Focus on Variation in Performance

This improvement principle, Bryk et al. argue, asks that education reform move “away from simplistic thinking about solutions in terms of ‘what works?’ toward a more nuanced appraisal of ‘What works, for whom, and under what set of conditions?’” (2015, p. 13-14). Interrogating the variation in the system by asking those questions can reveal areas of inequities, spotlighting places for improvement targets. Researchers such as Yurkofsky and colleagues (2020) similarly highlighted the challenges that accompany reform devoid of addressing context and system variation, noting recent shifts toward continuous improvement approaches to educational change that do consider context. Change efforts that acknowledge variation invite purposeful improvement processes to create lasting effects.

## Principle 3: See the System that Produces Current Outcomes

A nuanced understanding of the educational system one seeks to change is represented in this principle of improvement. Here, the individual seeking to improve must zoom out to see the complex workings of various root causes and processes that come together to create specific outcomes (Hinnant-Crawford, 2020). Success in improvement efforts is not determined by solo actors or processes but rather the culmination of these in the larger system (Langley et al., 2009). A systems view is frequently absent or partial in approaches to school reform. Bryk et al. (2015) argue that “most education reforms reflect at best a partial understanding of system dynamics, and some seem almost oblivious to the fundamental character of the phenomena they seek to change” (p. 58).

## Principle 4: We Cannot Improve at Scale What We Cannot Measure

Individuals seeking to improve a specific outcome must be able to measure the various aspects of the process. Without continuous feedback, a false sense of progress may arise where none exists (Bryk et al., 2015). Knowledge that change is working comes through use of various measurements for differentiated purposes (Hinnant-Crawford, 2020) and could include both qualitative and quantitative evidence. Bryk and colleagues (2015) highlighted the increase in annual measurement used in federal policy starting with NCLB. This data, however, “exact a price: while the measurements can signal where improvements are needed, they rarely provide the detail needed to help teachers and schools actually improve” (p. 91).



## Principle 5: Use Disciplined Inquiry to Drive Improvement

Consistent feedback helps drive implementation of the improvement effort (Bryk et al., 2015). Improvement science points towards iterative cycles of inquiry such as a Plan-Do-Study-Act (PDSA) cycle, where first, improvers *plan* a small change and determine how to test the change. Next, they *do* the change and utilize measurement tools to see the impacts of implementation. Then, they *study* collected data to examine if results met the expected predictions. Finally, *act* on what was learned, determine if the change produced the desired outcomes and make adjustments. Immediately following the *act* stage, the organization should circle back into the plan stage for the next iteration of testing or scaling the implementation (Byrk et al., 2015). The PDSA cycle is a valuable tool “designed to build new knowledge with each additional cycle about what works, what does not work, for who, and under what conditions” (Hinnant-Crawford, 2020, p.160).

## Principle 6: Accelerate Learning Through Networked Communities

Effective improvement requires collaboration. Networked Improvement Communities, (NICs) “are highly structured, intentionally formed collaborations among education professionals, researchers, and designers that aim to address a high leverage practical problem” (Russell et al., 2017, p. 4). NICs help increase the speed at which institutions involved are able to learn by simultaneously collecting data and implementing changes across a variety of contexts and systems (Hinnant-Crawford, 2020).

## Literature Review

The presence of improvement science in education practice is an emergent field of study. This study focuses on the intersection of improvement science principles and the language of ESSA. We focused our literature review in three-related areas that help guide our understanding: (a) the influence of policy on practice; (b) studies focusing on ESSA; and (c) improvement science in education.

### Influence of Policy on Practice

Policy can impact educational practice and vice versa, evidence from practice can impact policy (Coburn, 2005; Honig, 2003). Strydom and colleagues (2010) argue that inclusion of evidence in the policy-making process is more effective and efficient than, “policies formulated through ordinary time-constrained and politically-constrained processes without evidence input” (p. 1). The role of evidence influences various as-

pects of policy making. One such way is in agenda setting where evidence helps surface problems facing society and provides a mechanism for policymakers to utilize research and evidence to effectively address their policy agenda (Strydom et al., 2010).

Contextualizing policy's connection to education practice reveals challenges. For example, Coffield and colleagues (2007) did not find evidence that policy directly translated to teaching practices during implementation. They found policy frequently increased bureaucratic duties of teachers while sometimes detracting from actual teaching time. Further, they state policy levers sometimes exact high costs on institutions and may result in unintended consequences deleterious to the institution's function (Coffield et al., 2007). Policy acts as both a signal and symbol to schools. As a signal, it helps educators understand new expectations for which they will be held accountable, and as a symbol it points to where policymakers are placing value and priorities (Jimerson & Childs, 2017).

### Studies on ESSA

ESSA aimed to return decision-making flexibility to SEAs in how they operated schooling in their states, ultimately reducing the federal oversight that had been previously amped up in NCLB (Mathis & Trujillo, 2016). As a departure from NCLB, scholars noted ESSA continues to perpetuate the more "unproductive structures and reforms that NCLB prescribed" (Mathis & Trujillo, 2016, p. 6). ESSA still prioritizes testing to measure academic success and continues state sanctions based on test results (Mathis & Trujillo, 2016). Despite criticisms, ESSA offers SEAs flexibility to address context-specific problems, and, as this study posits, holds potential to invite improvement science as continuous improvement into the fabric of education policy.

Previous studies on ESSA examine areas such as teacher distribution (Fuller et al., 2017), school leadership development (Young et al. 2017), and college and career readiness (Malin et al., 2017). Darling-Hammond and her colleagues (2016) explore states' opportunities to restructure their accountability systems under ESSA. They, along with Dynarski (2015), acknowledge ESSA's focus on evidence-based intervention. Studies demonstrate ESSA focuses heavily on data and the requirement for states to report their data (Fuller et al., 2017; Young et al., 2017)—a vestige from the NCLB-era (Mathis & Trujillo, 2016).

In their report, Dynarski (2015) illuminate a connection between the call for evidence-based practices and improvement science, asking districts to "work with improvement scientists to adapt interventions with evidence of effectiveness and monitor the results" (p. 4). While this shows the convergence of policy and improvement science, little else was written beyond encouraging districts to engage with improvement science professionals to effectively implement interventions. While not a stated

connection to improvement science specifically, the importance of using evidence to reveal equitable and inequitable practices in schools is found in the leadership literature. Shields's (2010) research, for example, describes the work of transformative leaders. Shields (2010) proposed that, "a fundamental task of the educational leader in this transformative tradition is to ask questions, for example, about the purposes of schooling, about which ideas should be taught, and about who is successful" (p. 570). Her language parallels the three key questions referenced above that improvers ask: 1) What works?; 2) For whom?; and 3) Under what conditions? Evidence then can be utilized to help the work of the improvement scientist to intersect with transformative leadership and create equitable change to a system.

### Evidence of Improvement Science Application in Education

Improvement science shows promise in driving lasting reform in public schools (Bryk, et al., 2015). Improvement science application to educator professional development holds merit because it does not rely on outside experts but rather is more insider, user-focused (Wright, 2019). Although there is promise and improvement science methods are garnering attention of educational professionals, the principles of improvement science are still emergent. Lewis (2015) notes the lack of research centered on improvement science, writing,

Yet there is relatively little education research in the improvement science tradition, which emphasizes building organization members' understanding of the problem and its causes, buy-in to improvement, identification of improvement ideas within and outside their organization, and rapid testing of promising ideas through PDSA cycles (p. 55).

Similar to the body of research on communities of practice (Wenger, 2000), some improvement science research focuses on networks where scholars such as Glazer and Peurach (2013) argue their promise. They wrote that the success of improvement efforts, like school improvement networks "will increase if policy makers and philanthropists strengthen the community infrastructure supporting school improvement networks," (p. 703). Networked Improvement Communities (NICs) have the ability to diffuse knowledge about and across various contexts widely and quickly (Wright, 2019). One such successful application of a NIC is the Building Teacher Effectiveness Network (BTEN) (Hannan et al., 2015). Among other themes, Hannan and colleagues' (2015) study found a myriad of challenges arise if educational professionals are engaged in counter-normative work present in some education reform efforts.

Improvement science has shown success in driving equity and ac-

cess work in educational contexts. Bryk (2020) details the work of the Fresno Unified School District and how an improvement science framework allowed the district to address equity issues that had not been apparent previously. Through their use of continuous improvement, the district was able to address graduation rates, equity of advanced coursework offerings, and mismatching of graduates with undergraduate universities. Bryk (2020) explained that these tools went beyond the limitations of traditional accountability structures to produce a more equitable school district.

Finally, research on improvement science has explored education research practice itself as it requires researchers to shift focus toward a systems view of a context (Cohen-Vogel et al., 2015) while simultaneously shifting how participants are viewed. Cohen-Vogel, et al, (2015) posited that, “the roles between participants *in the process* and researchers *of the process* become blurred,” (p. 271) pointing to the participatory and user-centered nature of improvement science.

## Methods

### Data Sources

We engaged in a qualitative content analysis to address our research question. Our data sources, the *State Template* and the *Review Criteria* are guidelines SEAs used to craft their *Consolidated State Plans* which detail how they aim to meet ESSA expectations and improve student outcomes. Specifically, the *State Template* provides the structure for SEAs to develop then submit their plan to the U.S. Department of Education for review and approval. We make the assumption that the language in the *State Template* would drive the design of states’ ESSA *Consolidated State Plan*, signaling prioritization of processes and goals. Relatedly, its companion document, the *Review Criteria* is accessible to SEAs but is used by the federal-level peer-reviewers of submitted states’ plans and explains what should be present to sufficiently meet policy expectations. While both documents are relatively short, they fundamentally impact the implementation of ESSA, committing states to actions and priorities articulated in their plans.

### Coding

The data sources were uploaded into *NVivo* 12 to organize coding and analysis. Initial coding was guided by the utilization of *a priori* codes (Saldaña, 2016). A priority of this study aimed to determine explicit and implicit policy alignment to improvement science. Therefore, we generated a list of terms specifically related to improvement science; these served as search terms to locate patterns for coding the *State Template* and *Review Criteria*. Two improvement science texts drove the selection of domain-

specific terms: Hinnant-Crawford's (2020) book, *Improvement Science in Education: A Primer* and Langely and colleagues' 2009 book, *The Improvement Guide*. We argue the terminology of improvement science (e.g., improvement science, networked improvement, root cause, iterative cycles, improvement aim) would illuminate the extent to which current policy is asking SEAs to incorporate this framework. The dearth of matches of the *a priori* codes in cycle one led to a second cycle: line-by-line open coding to determine indirect or implicit presence of the *a priori* codes that could precipitate use of improvement science approaches in states' enactments of ESSA. Our analysis focused on organizing and comparing coded excerpts against the six principles of improvement.

## Findings and Discussion

Our analysis revealed repetition across the documents, many coded portions were permutations of other sentences, changing one word or phrase to address different sections of the policy. We argue the *State Template* and the *Peer Review Criteria* only partially aligned with our conceptual framework, the six principles of improvement, and we offer three themes that emerged during analysis.

### Improvement as Outcome and Not Process

Through our analysis, we found the concept of improvement was treated more as an outcome or desired end goal rather than a process as scholars of improvement encourage (e.g., Bryk et al., 2015). This is illustrated by language in the *Review Criteria* stating, "does the SEA identify (i.e., by providing a numeric measure) and describe the long-term goals for all students for improved academic achievement, as measured by grade-level proficiency on the annual statewide reading/language arts and mathematics assessments" (p. 9). Similarly, the *State Template* asked SEAs to:

Describe the long-term goals for improved academic achievement, as measured by proficiency on the annual statewide reading/language arts and mathematics assessments, for all students and for each subgroup of students, including: (i) baseline data; (ii) the timeline for meeting the long-term goals, for which the term must be the same multi-year length of time for all students and for each subgroup of students in the State; and (iii) how the long-term goals are ambitious. (p. 9)

Improvement in this way has been framed as the outcome (e.g., improved proficiency score) rather than the process through which the system is improved resulting in desired, goal-oriented outcomes. In these cases, it seems the term "improvement" in the policy document could be substituted for the word "increase." This harkens back to sentiments by Darling-

Hammond (2007) on NCLB when she noted, “the biggest problem with the Act is that it mistakes measuring schools for fixing them” (p. 249). The improvement literature and improvement scholars would argue that improvement cannot singularly be the outcome but must also include the processes that shape the system to get the outcome.

Principle five argues for the “use of disciplined inquiry to drive improvement” (Bryk et al., 2015, p. 113). Improving the system(s) through actions like interrogating and making changes to those systems for sustained improvement would position the SEAs to utilize iterative cycles of learning such as the PDSA cycle as a “framework for an efficient trial-and-learning methodology,” (Langley et al., 2009, pp. 24-25), ultimately resulting in more successful implementation of school reform. This type of improvement process, however, is not how improvement seems to be framed within either the *State Template* or the *Review Criteria*.

### An Emphasis on Measurement

The fourth principle of improvement states “we cannot improve at scale what we cannot measure” (Bryk et al., 2015, p. 87). There is, unsurprisingly, a strong focus on accountability throughout the *State Template* and the *Review Criteria*. During first cycle coding, the most abundant terms in the documents were *measurement for accountability* (i.e., 26 references) and *measurement for improvement* (i.e., 22 references). Coded as *measurement for improvement*, was the “measurements of interim progress” language—a required component for states to address in their plans. Hinnant-Crawford (2020) defined measurement for improvement as, “data collected to inform improvement efforts... [they] are collected frequently, embedded in day-to-day tasks, and are written in a language for various stakeholders to understand” (p. 217). Initial analysis led us to believe that “interim progress” would be those indicators states use to check the effectiveness of strategies on their way to their end goal(s), similar to what Hinnant-Crawford described above. Further examination revealed these measurements of interim progress were coupled with measurements of and for accountability. The initial use of “measurements of interim progress” in the *State Template* states: “Provide the measurements of interim progress toward meeting the long-term goals for academic achievement in Appendix A,” (p. 9), and are included in the section: “Statewide Accountability System and School Support and Improvement Activities.” With federal policymakers tethering interim measures to the accountability systems section signals their interpretation of these measures are a form of accountability reporting. While the words “interim progress” may read as in the vein of continuous improvement, the manner in which they are presented (i.e., as a part of accountability systems) could result in states interpreting this as an outcome, compliance reporting, and accountability measure.

This focus on accountability may be a barrier to schools’ and dis-

tricts' ability to engage in meaningful improvement in schools, particularly in those schools that need it most. For quality improvement to occur, there must be a practical measurement system in place (Bryk et al., 2015). This system provides vital information to continuously learn and adjust to make sure that progress toward the desired outcomes is in place. Because the policy is already asking states to have accountability systems built, a practical measurement system for the purposes of improvement may be a place for states to inject improvement science processes. Strict accountability systems that do not take into account the variety of contexts in which schools exist in within their state may hinder quality improvement to occur, resulting in "solutionitis" which is, "the tendency for educators to jump to conclusions about the best solution before fully defining the problem" (Hinnant-Crawford, 2020, p. 45).

Portions of the *State Template* did align with improvement measures, such as, "describe how the State will use data and ongoing consultation as described in ESEA section 2101(d)(3) to continually update and improve the activities supported under Title II, Part A," (p.17). Sections such as this, paired with the flexibility for SEAs and local education agencies to interpret measurements for interim progress, would open up states' consolidated plans to utilize improvement science while addressing adopted policies.

### Lack of Improvement Science Terminology

Our third theme is less about what was included and more about what we discovered was not included. The *State Template* and the *Review Criteria* did not include explicit expectations for using improvement science in their policy language, and, thus, there is an absence of the remaining four principles of improvement (i.e., Principles one, two, three, and six). Both coding cycles yielded a dearth of improvement science concepts. Across both, key improvement terms such as *continuous improvement* and *root cause analysis* were not included at all. Many of our *a priori* codes, in fact, were not found in the documents. In the *Review Criteria*, the closest to an explicit mention of continuous improvement or improvement science was regarding evidence-based practices. The term evidence-based appeared under a section regarding technical support for comprehensive support schools. The *Review Criteria* asked reviewers: "Is the technical assistance likely to improve student outcomes by, for example, 1) identifying State approved evidence-based interventions; 2) supporting LEAs and schools in the development and implementation of support and improvement plans; and 3) differentiating the technical assistance?" (p. 15). Cunningham and Osworth (in progress) found the use of explicit improvement science language emergent in multiple state plans, yet this does not appear to be congruent with what the policy asks for SEAs to produce in their *Consolidated State Plans*. One way to explain this could be through what

Mitra noted related to how the U.S public education system exhibits loose coupling: “loosely-coupled systems allow for innovation” (2018, p. 111).

This overall lack of explicit language of improvement science does not preclude the use of improvement science in SEAs’ plans but rather leaves a door open for innovation to occur at the state level. We view this as a promising way for continuous improvement frameworks to be utilized in the future, despite the absence of directives within policy outputs to do so. While flexibility gives educators the ability to infuse their plans for policy implementation with cutting-edge best practices emerging in the field, it also can allow education agencies to miss these opportunities and instead perpetuate the status quo from previous policy iterations—a not-all-that-uncommon practice in the transition from NCLB to the ESSA (Mathis & Trujillo, 2016).

## Implications

### Implications for Policy

A mainstay in education reform policy is an emphasis on measurement (McGuinn, 2006; McGuinn, 2016; Ravitch, 2010), and the evidence from this study corroborates this claim. Measurement and emphasis on accountability fit within the shape of schooling society has come to expect, and policy fits within that mold focusing on outcomes rather than processes. Although change is possible, the grammar of schooling works to slow change that happens within U.S. school systems (Tyack & Tobin, 1994). In line with what Strydom and colleagues (2010) noted, there is an opportunity for policy makers to examine emerging trends and evidence related to how improvement science can be effectively woven into educational policies to support effective change. Some state level policy actors are doing this already as there exists evidence of schools and districts prioritizing continuous improvement practices (Hannan et al., 2015), and some SEAs are including improvement science in their plans to achieve the expectations of ESSA (Cunningham & Osworth, in progress). Future policy can advance the use of improvement science by considering continuous improvement processes in its language and outputs (e.g., future iterations of the *State Template* and the *Peer Review Criteria*).

Education policy formation and implementation is complex, even messy, due to the high number of policy actors involved. Attention should focus on, “how policies play out in real contexts, in the midst of real pressures and complications” (Jimerson & Childs, 2017, p. 585). There are plenty of examples of policy implementation going awry at the user-level as this is where policy is typically enacted (Fowler, 2013). Evidence from prior studies suggests a disconnect between evidence, subsequent predictions of outcomes, and what policy requires. If reauthorizations and iterations of policies are meant to move education practice forward, there is a



need for policy makers to consider and engage in the improvement science principle of being user-centered (Langley et al., 2009). A role of policy is not only to align to goals or address a problem but also to serve as a symbol, signaling what is being prioritized. As Jimmerson and Childs noted, “Policies simultaneously provide a public symbol of a desire for improved academic outcomes and signal expectations for data use that are not reflective of the kinds of practice research suggests would actually result in those outcomes” (2017, p. 601). This illustrates the disconnect that may exist between the symbol and signal (e.g., measures of interim progress), but also the breakdown of evidence appropriately informing policy making (Strydom et al., 2010).

### Implications for Practice

There is clear evidence that ESSA focuses on measurement and accountability, continuing the trend of education policy and reform focused on quantitative testing. However, despite an explicit focus on measurement and testing, educational professionals are not precluded from utilizing improvement science as a process to achieve positive change for their students. This is congruent with the findings of Cunningham and Osworth (in progress) who observed the use of improvement science in the language of some states’ consolidated plans. Despite disconnects between policy and practice or between policy makers and educational professionals, there are opportunities within ESSA for strategic educators to meet policy expectations while leveraging best practices set forth in the improvement science literature.

### Implications for Research

There is promise in prior literature documenting improvement science’s application to educational systems can drive meaningful change and reform (Bryk et al., 2015). In the current field there is a lack of research considering the nexus of policy and improvement science. Future research in this area should examine: (a) what policy levels include explicit or emergent language of improvement; (b) to what extent policy language that includes improvement science impacts local policy implementation of improvement science; (c) how improvement science is being used to enact policy at the grass-roots level; and (d) how those practices influence future policy language.

### Conclusion

Education policy in recent federal iterations focused on the improvement of schools in a combination of specific and vague language (Nelson & Weinbaum, 2009). This study examined the extent to which

ESSA's requirements for state compliance reflect cutting-edge trends in the field to specifically invite a continuous improvement or improvement science approaches within their policy outputs. Through a qualitative document analysis of the *State Template* and the *Review Criteria*, we looked at areas where continuous improvement and improvement science may be emergent in the federal policy or the ways in which it may be able for states to utilize in order to meet ESSA's expectations.

While there was a dearth of explicit improvement science terms used within the federal documents provided to SEAs, we ascertained three themes related to the six principles of improvement (Bryk et al., 2015). In the first, Improvement as Outcome and Not Process connected to Principle Five: Use Disciplined Inquiry to Drive Improvement. The second described the Emphasis on Measurement related to Improvement Principle Four: We Cannot Improve at Scale What We Cannot Measure. Our third theme presented is less about what was included and more about what we discovered was not included. In this third theme—Lack of Improvement Science Terminology—we suggest the ESSA policy documents (i.e., the *State Template* and the *Review Criteria*) do not include explicit expectations for using improvement science in their policy language, and we noted the absence of the other four principles of improvement.

These themes suggest way policy language and potential school reforms by SEAs might apply under federal expectations with or without requiring continuous improvement and improvement science.

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**David Osworth is a graduate research assistant at the University of South Carolina.**

**Kathleen Cunningham is an assistant professor at the University of South Carolina.**



## MITIGATING LEARNING LOSS FOR STUDENTS WITH DISABILITIES DUE TO COVID-19: AN ANALYSIS OF FLORIDA EDUCATION PLANS AND ASSURANCES WITH AN EYE ON LEADERSHIP

*School closures, inequitable technology, and diminished access to educational support negatively impacted learning for all students during the COVID-19 pandemic but more so for students with disabilities. In anticipation of learning loss for all students, the Florida Department of Education (FLDOE) mandated each school district to develop an Educational Plan and Assurances (FLEPA) document outlining how districts intended to tackle learning loss for all students, including students with disabilities, as they transitioned to face-to-face instruction. The purpose of this study was to investigate how Florida's 67 school districts planned to mitigate the anticipated learning losses among students with disabilities, to determine if the districts' plans were sufficiently comprehensive to ensure Free Appropriate Education (FAPE), and to determine if there was evidence of leadership actions that would support students with disabilities and their service providers. Using a document review approach, the researchers systematically reviewed all school districts' FLEPA narratives, with the FAPE framework as the conceptual base, to determine how each school district was planning to recuperate learning loss experienced by students with disabilities during the period in which instruction was restricted to online platforms. Findings indicated a general lack of explicit planning for students with disabilities, particularly those with physical, communication, social, and behavioral needs. The researchers conclude with recommendations for policy makers and school leaders that should be considered when a crisis occurs that prohibits students from attending school to ensure our most vulnerable students receive the needed support.*

*Keywords:* Individuals with Disabilities Education Act (IDEA), Free Appropriate Education (FAPE), Least Restrictive Environment (LRE), COVID-19

### Introduction

The COVID-19 pandemic forced state and local education officials to close schools in spring 2020 to protect the health and well-being of students and staff. It is estimated that during the height of school closures, over 100,000 public schools were closed, disrupting the education of more than 50 million students (Education Week, 2020). With the disruption came projected learning loss for all students, especially for students

with disabilities and other youth placed at risk.

Even in light of the best efforts by teachers and school districts to pivot quickly and effectively to online learning, the projected negative repercussions for student learning have been disheartening (Kaffenberger, 2021; Zviedrite et al., 2021). Results from early projections indicated that students who received no or minimal remote instruction in the spring were likely to begin fall 2020 with only 63-68% of the learning gains in reading and 37-50% in math, compared to what would be expected in a typical school year (Zviedrite et al., 2021). Those who received approximately half of the instruction they would typically receive were likely to start the new school year with 60-87% of their typical learning gains.

Nonetheless, a switch to remote learning was a reasonable response, even if inadequate, to the learning needs of most students. But it was poorly planned and executed for students with disabilities, particularly those with physical, communication, social, emotional, and behavioral disabilities. Indirect evidence has suggested that school closures and the unavailability of services had a substantial negative effect on children with profound physical and intellectual impairments. In one study, researchers surveyed 302 parents and caregivers of children, aged 2-17, with neurodevelopmental disabilities (NDD), and concluded that the breakdown of support systems and inadequate access to services had a deleterious effect on the health and well-being of these children (Masi et al., 2021). Worsening of NDD or comorbid mental health symptoms was reported by 64.5% of caregiver respondents, while 76.9% reported negative impacts on child health and well-being. The children were spending more time in front of a television or computer screen, exercising less, and eating a poor diet.

Parents Together Action (n.d.), a parent-led organization with over two million members nationally, surveyed 1,594 families around the country about the impact COVID-19 was having on their children's education. Of those surveyed who had a child with an Individualized Education Program (IEP) or were entitled to some form of special education services, only 20% indicated they were receiving those services; 39% reported their children received no support at all. Furthermore, children with IEPs were twice as likely as their peers to be doing little or no remote learning (35% vs. 17%). Twice as many parents of children with disabilities, compared with parents of children without disabilities (40% vs. 23%), also expressed concern about their children's mental health. These projections and survey results portend challenges for both educators and students as schools reopen and traditional instructional modalities return, especially for children with physical, communication, social, emotional, and behavioral disabilities.

Providing educational opportunity for students with disabilities has been a long, hard-fought struggle for nearly half a century. It was codified with the enactment of the Education for All Handicapped Children Act in 1975. Although it has been amended and reauthorized several times



since its initial adoption, the law's primary purpose remains: "to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living" (IDEA, 2004, 20 U.S.C.A. § 1400(d)(1)(A)). The key provision, Free Appropriate Education (FAPE), is defined in the law as

Special education and related services that (A) have been provided at public expense, under public supervision and direction, and without charge, (B) meet the standards of the State educational agency, (C) include an appropriate preschool, elementary, or secondary school education in the State involved, and (D) are provided in conformity with the individualized education program required under section 1414(d)." (IDEA, 2004, § 1401(9)).

However, what exactly is an appropriate education has been left to interpretation.

The U.S. Supreme Court took up this challenge in *Board of Education of the Hendrick Hudson Central School District, Westchester County v. Rowley* (1982). As a result of its analysis of the federal law, the Supreme Court provided the lower courts a two-pronged test to apply when tasked with determining if a student with disabilities had been provided FAPE: (a) did the state comply with the statute's procedural requirements and (b) was the IEP "reasonably calculated to enable the child to receive educational benefits?" (*Rowley*, p. 207). The *Rowley* decision made it clear, though, that school districts did not owe students with disabilities more than what was due general education students; there was no requirement to maximize the potential of students with disabilities. Yet, in the Court's own words, "the determination of when handicapped children are receiving sufficient educational benefits to satisfy the requirements of the Act presents a more difficult problem" (*Rowley*, 1982, p. 202).

In the years since *Rowley*, federal circuit courts have wrangled with the level of educational benefit due students with disabilities, making it difficult to ascertain the sufficiency of a student's IEP. They have split primarily between two standards: (a) "just above trivial" or "de minimis" standard and (b) the higher standard, "meaningful benefit" (Hurwitz et al., 2019). Given subsequent case law and amendments to IDEA, researchers and legal scholars have argued that it is time for a new, more concrete standard to define educational benefit (Davison, 2016).

The concern becomes more compelling and complex in light of the full range of learning, physical, social, emotional, and behavioral disabilities that complicate students' access to education. Many were hopeful that the Supreme Court would bring more clarity to and articulate a more contemporary interpretation of FAPE when it accepted *Andrew F. ex rel. Joseph F. v. Douglas County School District Re-1* (2017). This case in-

volved the educational circumstances of Endrew who, at the age of two, was diagnosed with Autism Spectrum Disorder (ASD). He had difficulty communicating his personal needs and emotions and was unable to participate in normal social interactions with others. His many maladaptive behaviors interfered with his ability to learn and to function in a traditional school setting.

His parents believed the district failed to provide Endrew with FAPE and, after exhausting administrative appeals, sued the district in federal court. In its ruling, the Court warned that “[t]o meet its substantive obligation under the IDEA, a school must offer an IEP reasonably calculated to enable a child to make progress appropriate in light of the child’s circumstances” (p. 999).

While some despaired at the yet-vague FAPE standard provided in Endrew, others found hope, particular for students whose disabilities had a profound impact on their ability to learn. Unlike Amy Rowley who had the cognitive and behavioral capacity to learn, Endrew represented students whose disabilities make learning, communicating, socializing, and behaving a challenge every day. The Court clearly struck down the *de minimis* standard, asserting every student with disabilities should have the opportunity to achieve challenging objectives. However, the Court was also careful to say it had not departed from its *Rowley* definition of FAPE; it only wandered far enough to promise something more than the basement floor of educational opportunity.

## Purpose

The Florida Department of Education (FLDOE, 2020b) mandated that every school district submit education plans that described what programming and strategies were to be implemented to help all students recuperate any loss as a result of the rapid shift to remote learning when school buildings were closed, and teachers and students were required to work from home. The purpose of this study was to investigate how each of Florida’s 67 school districts intended to mitigate the anticipated learning loss of students with disabilities as the state’s public schools returned to traditional instructional formats. This included determining if the district’s plans were sufficiently comprehensive to ensure FAPE and if there was evidence of leadership actions that would support students with disabilities and their service providers in ensuring FAPE.

## Background

Pursuant to an emergency order issued by Florida’s Commissioner of Education, Richard Corcoran, in early July 2020, the FLDOE required all 67 public school districts to submit a 2020-21 District Optional Innovative Reopening Plan (FLDOE, 2020a). These plans were to guide

school districts as they formulated strategies to reopen schools in fall 2020. In these plans, districts were instructed to assure that (a) all schools would open; (b) the full panoply of services required by law would be offered so that families who wish to send their children to brick and mortar schools could do so; (c) progress monitoring would be extended to all students and that tiered support for struggling students would be provided; (d) individual education program (IEP) teams would determine needed services, including compensatory services for students with disabilities to ensure they were given FAPE; (e) English Language Learner (ELL) committees would ensure provision of additional or supplemental English for Speakers of Other Languages (ESOL) services for ELL students who had regressed; and (e) sponsoring school districts would extend the same flexibility in instructional methods to every charter school that submitted a re-opening plan.

In November 2020, Commissioner Corcoran issued a second emergency order that required all school districts to submit a second plan, the Florida Education Plan and Assurances (FLEPA), to recommit to the assurances they provided in the first document and to map how they were going to tackle learning loss as more students returned to brick and mortar schools (FLDOE, 2020b). Furthermore, this plan was to guide districts in accomplishing four goals:

- 1) Building on the successful reopening of all public schools to in-person instruction;
- 2) Promoting parental choice while ensuring that every student is making adequate academic progress;
- 3) Providing financial continuity to enable each school district to maintain the full panoply of services for the benefit of Florida students and families, including students from vulnerable populations such as low-income families, migrant families, those experiencing homelessness, English Language Learners (ELLs), students in foster care, and students with disabilities; and
- 4) Empowering every district to maintain high-quality school choices for Florida students and families with a focus on eliminating achievement gaps, which have been exacerbated by the crisis (FLDOE, 2020c).

To gain FLDOE approval of their educational plans, districts were to explain what interventions they were going to implement during spring and summer 2021 that would focus on closing achievement gaps, on targeted outreach for students demonstrating poor performance in reading and math, and on additional supports to assist students transitioning from “innovative” learning models (remote learning) to “traditional” models (face-to-face) (FLDOE, 2020d). The districts were also to indicate how they were going to deliver additional instructional time which

could include after school, weekend, and summer programs, to make up for instructional time that had been lost during the school closures. The researchers postulated these detailed plans would afford them an opportunity to determine how the school districts aimed to ensure the provision of FAPE for students with disabilities.

## Research Design

This study is the first in a series of studies on meeting the unique needs of students with disabilities during and following the school closures that resulted at the height of the COVID-19 pandemic. At this initial point, the researchers relied on document review, the results of which will help the researchers formulate interview and survey instruments to elicit more specific information about the development and implementation of the FLEPAs with regard to students with disabilities. A data extraction matrix was constructed using key FAPE terms and phrases (e.g., compliance with IDEA's procedural requirements; IEPs; least restrictive environment (LRE); individualized instruction; related services; compensatory education) from the conceptual framework across the top and the names of the school districts along the left side of the matrix. Sentence fragments from individual plans that included or correlated with these terms were entered into the appropriate cell in the matrix under the appropriate FAPE terms and phrases. This approach allowed the researchers to determine independently, and then through conferencing, if the school districts' FLEPAs included provisions to meet the individualized learning and behavioral needs of students with IEPs in the period from spring 2021 through summer 2021.

This process also allowed the researchers to identify themes independently and then to arrive at consensus based on the data pieces each collected in support of their thematic choices. This was their process to ensure trustworthiness in the selection of themes that guided the discussion of the data.

## Findings

From the researchers' review of all FLEPAs, 37 out of 67 school districts referenced students with disabilities to varying degrees. From the analysis, three overarching themes emerged with regard to the provision of FAPE for students with disabilities. The overarching themes are: (a) pledges and promises, (b) service delivery models, and (c) stakeholder participation.

### Pledges and Promises

The first theme, pledges and promises, encompasses the districts'

implicit and explicit promises of instructional programming for students with disabilities. It also includes evidence of the lack of continuity among the pledged assurances, the directions provided to the districts in completing the document, and what was actually described by the districts in their FLEPA. The researchers also noted what was *not* in evidence with regard to programs and services for students with disabilities.

### *Instructional Programming*

All districts indicated their continued reliance on a Multi-Tiered System of Supports (MTSS) to address any identified learning gaps. The MTSS approach was and continues to be the standard intervention for struggling students in all school districts in Florida. References to the MTSS model focused on generalized approaches, frequently identifying prepackaged programs that target academic needs in reading and math (e.g., iReady, Go Math). However, there was no clear indication that districts considered strategies, even within the MTSS model, to monitor the progress of students with non-academic focused goals, such as behavioral and social development.

Also absent in the narratives were details distinguishing how additional instructional time was to be scheduled and structured for students with disabilities. Broad commitments to Saturday “camps,” after school academic support, and summer school for all students needing additional remediation in reading and math were commonly identified to recuperate lost instructional time. However, with the exception of the occasional mention of compensatory education for students with disabilities in reading and math and of progress monitoring, no details were provided on how the additional instructional time would be structured to meet the individualized needs of students with physical, communication, social, emotional, and behavioral disabilities.

### *Lack of Alignment Between Assurances, Goals, and Instructions*

Seven assurances and four goals were itemized in the FLEPA template. Among the assurances, each school district was required to pledge that Individual Education Program (IEP) teams would determine needed services, including compensatory services for students with disabilities to ensure they were provided FAPE. Furthermore, the third of four goals that were to be accomplished through the implementation of the FLEPA was “providing financial continuity to enable each school district to maintain the full panoply of services for the benefit of Florida students and families, including . . . students with disabilities.”

Yet, FLEPA instructions to districts contained no explicit requirement that the districts address how they would ensure these would be attained. As a result, only six school districts made mention of specific plans

for IEP committees to meet and that conversations would have to occur regarding how districts would provide adequate funding “to maintain the full panoply of services.” In fact, those few that did articulate some reference to IEP committees or compensatory education relied on broad, boiler plate language, something closely resembling generic IDEA language on FLDOE webpages. One such quote from a district’s plan stated,

“[We] include the following areas of focus as we enter the Spring semester: meeting the needs of all students, starting with those most vulnerable students, including students with disabilities and English Language Learners, providing a strong foundation for instruction for all students and helping to address the opportunity and achievement gaps that have widened during the pandemic.”

In a few other instances, school districts couched their intentions to provide additional instructional time and support, particularly during the summer, on the availability of funds by referring to “pending funding.” Many districts did not address these topics at all.

Not all FLEPAs were devoid of plans to address the needs of students with disabilities. Seven school districts outlined specific strategies. These strategies included: (a) providing an additional hour of support from a speech language pathologist for eligible students who attend schools with extended day schedules; (b) restructuring the co-teaching service delivery model to allow for special and general education teachers to work together simultaneously with small groups of students; (c) in-class accommodations that would provide instruction to students with disabilities in the least restrictive environment; (d) offering related services face-to-face with proper health precautions; (e) prescheduling collaborative support meetings for parents with a special education teacher or paraprofessional; (f) determining the need for compensatory services by the IEP teams for students with disabilities, based upon reading and math progress monitoring data, as well as possible counseling and therapy services, mental health and wrap-around services, and assistive technology; and (g) specifying tier 3 interventions for students eligible for Exceptional Student Education (ESE) and who may need support by a liaison, behavior specialist, paraprofessional, or co-teacher.

One large school district was offering the option of blended instruction (partially face-to-face and partially virtual) for students with disabilities. The face-to-face instruction would focus on core academics, and additional support that could not be provided face-to-face would be available through streaming live or recorded sessions with the teacher.

Noteworthy was one very large school district’s efforts to monitor and revise IEPs prior to the implementation of the FLEPAs. Between March 2020 and the time of plan development, this district conducted 1,750 initial eligibility meetings for students believed to have a disability and completed 23,100 annual reviews of IEPs.

## Service Delivery Models

The second overarching theme to emerge was service delivery models. This theme captured evidence related to key provisions of FAPE, which included: (a) education in the least restrictive environment (LRE); (b) related services; (c) recoupment of lost instructional time; and (d) funding sources for supplemental instruction. Only one district specifically mentioned FAPE in their narrative stating that students with disabilities and medically fragile students who had an IEP would receive the full array of services to ensure FAPE as outlined on their IEPs.

### *Least Restrictive Environment*

Four districts addressed LRE in their planning. The plans stated that services would be provided in the least restrictive environment but without defining how that translated to virtual platforms still being supported by districts. The authors did not find textual evidence that described how districts would systematically monitor IEP compliance to ensure that FAPE was being provided as outlined within each student's IEP.

### *Related Services*

Of the 67 FLEPAs reviewed, only five districts specifically mentioned some provision of related services. One district stated that related services would be provided face-to-face and virtually. Another district indicated that related services would be only provided face-to-face. One district only identified an extra hour of speech therapy in the related service narrative, yet limited that service to schools that had an extended day schedule. One district did mention counseling in the related service narrative while another discussed related services as a “check-in with the students.”

### *Recoupment of Lost Instructional Time*

As previously noted, all districts indicated to varying degrees their intentions to provide before or after school tutoring, summer school, and Saturday boot camps or academies to reclaim lost instructional time. This supplemental instruction was clearly marked for academic remediation, with no mention of supplemental instruction for students who had disabilities that were not learning disabilities. Most narratives generally stated that all students not making adequate progress would attend one of the supplemental instructional programs.

However, four school districts specifically dedicated additional instruction through Extended School Year Services and ESE Saturday School to students with disabilities who were eligible for compensatory

education. Two districts did not outline a particular service but did state additional services would be provided as determined by the IEP team. An additional district stated that students with disabilities had access to all of the district's academic recovery programs.

Other districts set qualifying criteria for students to participate in additional instruction. Examples of eligible students identified in the plans included students reading two or more years below grade level, students who were performing below the federal index, and students with multiple warning indicators. Although students with disabilities were not explicitly identified as eligible, many likely would qualify.

### *Funding*

Districts noted additional programs would be made available to all learners with the caveat that those opportunities would be dependent on the availability of funding. One such district stated, "pending funding" and listed the available remedial services to all students. Identified funding sources included CARES Act, Title V, and Title I. There was no mention about the school districts' legal obligation to provide additional instructional opportunities for students with disabilities to ensure the provision of FAPE, regardless of the availability of additional funding.

### *Stakeholder Participation*

The researchers noted when particular mention was made of those who would have a role in implementation of these plans. The resulting overarching theme was stakeholder participation, which included: (a) leadership oversight, (b) educator and service provider input, (c) parent involvement, and (d) community agencies and partnerships.

### *Leadership Oversight*

Principals were the individuals tasked with supervising the implementation of the plans. Specific responsibilities identified by the districts included collaborating with district personnel, relying on multiple data sources to inform and guide the process to determine interventions for struggling students, including those with disabilities, monitoring student attendance, and meeting with parents and caregivers to discuss student progress and modality of service (e.g. face-to-face vs. remote learning).

### *Educator and Service Provider Input*

Narratives did not specifically state who contributed to or wrote the FLEPAs or to what extent, if any, school administrator or service provider feedback was elicited and incorporated throughout the process. Nor



was there language describing how the expectations outlined in the plan were to be disseminated and clarified for those responsible for implementing the FLEPAs in their respective schools.

### *Parent Involvement*

Parent involvement was explicitly or implicitly addressed in Assurances 2, 3, and 5, as well as in the directions. Assurance 2 required school districts to ensure that IEP teams would appropriately determine needed services which implies parental participation per IDEA regulations. Under the IDEA procedural safeguards, schools must practice due diligence to ensure parents are active participants in the IEP process.

Procedural safeguards also require that parents are to receive prior written notice in their native language of changes to FAPE for their child (FLDOE, 2021). Noticeably absent from the FLEPAs was any mention of these procedural safeguards in relationship to parental involvement in the development of these FLEPAs or in the revisions or realignment of their child's IEP, if it were needed.

In fact, explicit mention of parent involvement was limited to receiving notice of their child's progress and being urged to choose face-to-face instruction if their child was not making adequate progress in the innovative learning modality (i.e., remote learning). Students not making adequate progress, based on progress monitoring, could only continue with remote learning if parents acknowledged in writing they understood their child was not making adequate progress yet chose to have their child continue in the innovative learning modality in lieu of face-to-face instruction.

### *Community Agencies and Partnerships*

The location of districts and their proximity to community agencies seemed to dictate the districts' ability to coordinate and provide additional supports to students through agency and organizational partnerships. Those near universities were able to take advantage of partnerships such as the UF Lastinger Center for Learning or the Florida Center for Reading Research at Florida State University and their Regional Education Laboratory. A large school district in north Florida was able to rely on its partnership with the Kids Hope Alliance, and three districts partnered with a designated 21st Century Community Learning Center to provide additional academic services for their students. Beyond this small group of districts, no others mentioned extending their capacity to offer additional supports through community partnerships.

## Discussion

The provision of FAPE is the responsibility of all public school districts, even in challenging contexts, such as the COVID-19 pandemic (Stenhoff et al., 2020; U.S. Dept. of Education, 2021a, 2021b). The FLDOE acknowledged this duty in both the assurances and goals conveyed in the FLEPAs (FLDOE, 2020c). In light of this guidance, the researchers hypothesized that district plans would articulate, with some level of specificity, the extenuating needs of vulnerable populations of students and their families. Thus, with regard for the novel circumstances of COVID-19 that necessitated quick thinking and action on the part of all stakeholders, the focus of this study was to determine if school districts planned to mitigate the anticipated learning loss of students with disabilities, if the districts' plans were sufficiently comprehensive to ensure FAPE, and if there was evidence of leadership actions that would support students with disabilities and their service providers to meet this obligation.

Although the language across documents articulated a vague commitment by districts to continue the provision of specialized instruction and individualized supports as mandated by federal legislation even during times of crisis (Stenhoff et al., 2020), the plans did not clearly articulate: a) how students' individualized educational programs would be implemented with fidelity across instructional modalities or b) how progress would be monitored for students' non-academic-focused goals. Consequently, students with physical, communication, social, and behavioral disabilities may have experienced exacerbated learning loss undetected by the universal progress monitoring systems described in districts' plans and in turn, may have been more vulnerable to violations of FAPE than those identified with specific learning disabilities.

Findings also indicate that districts ubiquitously relied on instructional programming beyond the traditional school day (e.g., after school and Saturday tutoring) and/or academic year (e.g., spring break camps) to address the extensive learning loss of the general student population. However, the plans did not provide adequate specification as to how districts would ensure students with various disabilities could equitably access this programming, or the extent which students with disabilities would participate in this programming alongside their nondisabled peers, as required by FAPE and as defined by students' individualized education programs. Collectively, the findings indicate districts did not: (a) develop comprehensive plans that address the true scope of services and diverse populations that FAPE was designed to protect and (b) maintain the continuation of special education services and supports for all eligible student populations during the transition periods in alignment with the provisions of FAPE discussed here.

Furthermore, the document review provided little evidence of leadership actions specifically targeted at ensuring that the unique needs

of students with disabilities were adequately addressed as reflected in the plans. For this reason, the researchers suggest the following recommendations for consideration to policy developers and district and school leaders.

### Recommendations for Leadership

The first lapse in leadership was the development of the FLEPAs. There was no direct evidence that all those who have roles in the education of students with disabilities were asked to contribute to plans for their learning recovery. When tasked with writing comprehensive plans such as the FLEPAs, school district leaders should have viewed this as an opportunity for those who will be implementing the plans to assist in the design and decision-making process (Marzano et al., 2005). For instance, according to Marzano et al. (2005), input from teachers regarding school decisions has an effect size of 0.25 on student achievement. This implies that teachers are essential to student success and, therefore, are key players in planning and implementing learning recovery plans. They are positioned to select and implement instructional strategies that best meet the needs of all students, in particular the specialized instructional needs of students with disabilities.

Parents and caregivers of students with disabilities should always be a part of the process. Not only does the law require districts to involve them in programming planning for their children with disabilities, parents have first-hand knowledge of what teaching and learning transpired during the school closures. They have pertinent information to contribute as partners with educators on how to help students with disabilities recuperate learning loss.

Likewise, related service providers also know where there were gaps in the provision of related services during the time students with disabilities remained at home. They could contribute expert advice about how to move forward in helping students regain lost physical, communication, social, emotional, and behavioral growth that was delayed as a result of the impact of COVID-19 on access to related services and learning.

Lastly, community agencies, some of which were identified in the FLEPAs, can be a valuable source of input when developing comprehensive plans to recover learning loss, especially for students with disabilities. They can extend the reach of educators in providing support services for students with disabilities that may go beyond the instructional day or week.

Next, successful educational programming and implementation rely on several factors, all of which connect to leadership. First, successful programs are often the result of being implemented by the people who designed them (Cameron et al., 2011). This aligns well with the earlier recommendation to invite those invested in the success of students to the table when drafting plans such as FLEPAs. School leaders can ensure that those

individuals are “in the room” as recovery plans are developed.

Secondly, on-going administrative support in the form of resources and technical support is essential (Weingartner, 2009). Overcoming the negative impact of school building closures and the inevitable but unplanned switch to online learning through learning recovery plans necessarily requires additional fiscal and human resources. Which resources can be tapped and how the organization can be (re)structured to respond to the learning needs of students are decisions that leadership must make in support of those who are in the classroom, that is both teachers and students.

Thirdly, how the correctional plans are disseminated to all who have responsibility for implementation is a key leadership responsibility (Spillane et al., 2002; Weingartner, 2009). It is important that state, district, and school leadership makes clear who is responsible for disseminating and implementing each part of the plan. They also must allow for some flexibility in the implementation to meet each school district’s unique circumstances (Leaske & Younie, 2022).

With the increased need in services for all students to recoup learning loss, the state and districts could assist with additional personnel to support instruction through rehiring retired teachers to support instruction and smaller class size for social distancing (Leaske & Younie, 2022). Students with disabilities require specialized techniques that include instruction to be paced more slowly than the regular classroom instruction and broken down in smaller steps than most students need. These students need frequent opportunities for guided practice with the teacher, including feedback (Bays & Crockett, 2007). By rehiring retired teachers, the district will give students access to these techniques from trained individuals.

School and district leaders have a moral duty to address the mental health of both teachers and students as these two groups transition back to brick and mortar educational environments. Students and teachers alike are experiencing some level of emotional trauma due to the fear, stress, social isolation, and political polarization that has occurred in the wake of the COVID-19 pandemic (CDC Foundation, 2021; Diliberti & Schwartz, 2022; Gewertz, 2021; Vestal, 2021). Without tending to the mental and emotional wellbeing of students and staff, efforts to recuperate lost learning will be less effective (Leaske & Younie, 2022; USDOE, 2021).

Among the recommendations for school and district leaders to address mental health includes open and personal communication, such as using every opportunity to talk about the toll that the pandemic has taken on everyone; that COVID’s impact is something that administrators, teachers, and students share (Gewertz, 2021). Also, leaders should prepare their staff and themselves to spot mental health problems among teachers and students in order to direct support and resources to whom and where they are needed (Gewertz, 2021; USDOE, 2021). Leaders should reach out to community mental health organizations, seek their partnership in addressing the mental health of school personnel and students, and create

support systems, such as virtual support groups and call lines (Gewertz, 2021). Of particular importance, leaders should stay in contact with teachers, counselors, and mental health service providers who work with students with disabilities to ensure they are monitoring all who are among the most vulnerable to mental and emotional problems.

In order to ensure FAPE is provided, school leaders need to be well versed in special education law and compliance (Zaretsky et al., 2008), but often times, the role of ensuring compliance with special education law is delegated to someone with more preparation in special education than the school leader (DeMatthews & Edwards, 2014). One way to ensure FAPE and to support special education service providers and students is for the school leaders to assist with the coordination of student, service provider, and paraprofessional schedules that meet students' identified time requirements per their IEPs (Bays & Crockett, 2007) and to monitor that teachers are adhering to those defined time requirements (DeMatthews & Edwards, 2014). It may be wise for school leaders and service providers to meet with parents of students who will need additional time or a change in their schedules and supports due to the change in modality of instruction to ensure FAPE and, together with the parents, revise the IEP to reflect the change in accommodations and services.

The following is a list of strategies that can be implemented during remote learning or a return to face-to-face learning for students who need extra support to recoup learning loss as well as for ensuring the provision of FAPE for students with disabilities.

- 1) Provide teachers professional development in digital learning strategies (Leask & Younie, 2022) and in using Universal Design for Learning while planning lessons and instruction (Jameson et al., 2020; Zaretsky et al., 2008);
- 2) Protect time for general education and special education teachers to collaborate (Bays & Crockett, 2007; Jameson et al., 2020; DeMatthews & Edwards, 2014; Zaretsky et al., 2008); and
- 3) Develop strong relationships with community networks that can support students and families during the time of crisis (Jameson et al., 2020; Zaretsky et al., 2008).

## Limitations and Future Directions

The findings of this study should be interpreted with the following limitations in mind. First, the researchers only reviewed the FLEPAs submitted by the public school districts representing the 67 counties across the state of Florida. Plans submitted by laboratory schools and/or charter schools (nine in total) were excluded from this study to avoid any confounding variables related to the special populations served and/or autonomous instructional modalities that may characterize these settings (e.g.,

School for the Deaf and Blind, Florida Virtual School). Second, the findings reported here only reflect what was articulated in the reviewed documents and, in turn, may not be indicative of how districts implemented and/or amended the identified strategies for recouping learning loss for students with disabilities or the role leadership played following submission of the written plans.

Future research should explore the lived experiences of stakeholders charged with the oversight and/or implementation of district plans to determine: (a) the extent to which the plans met the diverse and complex needs of all eligible students and their families and (b) the feasibility of ensuring the provision of FAPE across instructional modalities and within the context of the existing systems and procedures common across districts.

The researchers urge practitioners and other stakeholders to note what was learned from this novel time, and to consider the recommendations made here, in order to better provide for the needs of all students with disabilities when unanticipated circumstances arise that disrupt traditional educational program delivery and present potential widespread violations of FAPE for the most vulnerable populations of students.

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**Krista M. Bixler is an assistant professor at Florida Gulf Coast University in Fort Meyers.**

**Noelle Balsamo is an assistant professor at Florida Gulf Coast University in Forst Meyers.**

**Jennifer A. Sughrue is a professor at Florida Gulf Coast University in Fort Meyers.**



## MEETING THE EVIDENTIARY NEEDS OF SCHOOL- UNIVERSITY CO-RESEARCHERS IMPLEMENTING THE NEXT GENERATION SCIENCE STANDARDS

*The paper highlights the development of a collaborative formative assessment scoring process in a partnership between an urban university and one of the nation's largest districts. We explore collaborative research through the lens of a single formative assessment rubric derived from the Claims, Evidence, and Reasoning Framework (CER, McNeill & Krajcik, 2011) to guide teachers to meet the instructional demands of enhanced learning standards through a consensus scoring process. Results suggest that the formative assessment practices (i.e., using a Next Generation Science Standards (NGSS)-informed science rubric to focus collaboration) reinforced teacher and student learning meaningfully, supporting the enhanced instructional demands of the NGSS and providing school and university partners with useful data for their distinct purposes.*

*Keywords:* School-University Partnerships, Professional Development, Formative Assessment, STEM Education

### Introduction

In 2015, the Every Student Succeeds Act (ESSA) was authorized, ending the iteration of the Elementary and Secondary Education Act known as No Child Left Behind (NCLB). This paper highlights the development of collaborative formative assessment as a foundational professional learning process through a single example, a partnership between Loyola University and one of the nation's largest districts, the Chicago Public Schools (CPS). The Loyola-CPS partnership showcases several features of NCLB implementation in Illinois intended to build and sustain capacity for school-level renewal in math, science, or literacy instruction. Through this case, we examine the statewide, multi-tiered systems of assessment and evaluation that we collaboratively developed and applied as a shared evaluation philosophy in which formative assessment by teacher teams was encouraged. Our evaluation philosophy was fundamentally shaped by a belief in the collaborative development, refinement, and enhancement of assessment and evaluation capacity at the program, project, and school levels. Overall, our collaborations enabled state-level meta-evaluators, university partners, educators in schools, and, ultimately, P12 students, to have the evidence they needed to support learning, facilitate systemic improvements, and provide program- and project-level accountability. A chief objective of our efforts was to foster evaluation capacity systemically (Preskill & Boyle, 2008) that could be sustained at the end of

NCLB funding. The 2015 ESSA does not use school-university partnerships as a policy lever for professional learning, so understanding what partnerships accomplished in the NCLB years matters to those who still believe in their promise. It is the multi-tiered approach that drove a state-wide system of evaluation capacity building showcased in a single project that we address here and draw some tentative conclusions about what our partnerships accomplished. The overarching challenge was the Holy Grail of professional development evaluation: Can we demonstrate that student learning resulted from teacher learning?

The paper also documents what we learned about school-university collaborative research using common frameworks and tools to meet the evidentiary needs of partners to support and sustain collaboration focused at the school level, highlighting the role of models or frameworks and tools (Leslie, 2011), and protocols (McDonald, et al., 2003) applied in embedded systems of collaboration, described below. Ideally, tools and protocols convene partners in “the day-to-day work of improving teaching and learning” (Bryk, 2009, p. 598). By looking at the partnership through the lens of formative assessment protocols derived from the Claims, Evidence, Reasoning (CER) Framework (McNeill & Krajcik, 2011), we explore how teachers and coaches collectively addressed the enhanced instructional demands of the Next Generation Science Standards (NGSS) and how multiple demands for evidence of learning and improvement were met as a result. Statewide, this and other projects effectively built collaborative research capacity in two ways: 1) convening university staff and teachers as institutional partners to promote sustainable collaboration and 2) using tools and protocols to clarify instructional shifts and make results visible (Hattie & Yates, 2014). Formative assessment protocols and tools impose constraints that support group learning (McDonald, 2003) that are enhanced by ongoing structures and processes focused on instructional enhancement. The formative assessment process used by teachers and university coaches paired a rubric using the CER Framework and NGSS Science and Engineering Practices (SEP) with a consensus scoring process as a research protocol useful for learning how to faithfully implement the NGSS.

The statewide program began as an iteration of NCLB Title IIA professional development block grants to state higher education agencies such as the Illinois Board of Higher Education (IBHE) which developed in three phases of evaluation enhancement from 2004 to 2017. First, we offer an overview of the value of frameworks, tools, and protocols used collaboratively in exemplary professional learning systems. Second, we describe the statewide program that supported 34 partnerships in total but ended with prolonged support to just six to support those efforts that we believed could be sustained as professional learning systems with urban teachers whose work in science education is imperative in any system addressing educational inequities. Third, we characterize the multi-tiered systems of

alignment and accountability that required development of evaluation at several levels of analysis. Finally, we explore the case of elementary and middle grades science teams in several Chicago Public Schools served by an Improving Teacher Quality (ITQ) partnership with Loyola University's Center for Science and Math Education (CSME). The case supports the use of frameworks, tools, and protocols that situate the instructional shifts required by enhanced learning standards like the NGSS in collaborative adult professional learning spaces capable of improving instruction, assessment of learning, and program/project evaluation. We conclude by situating the case in the statewide evaluation system as an example of meeting the evidentiary needs of multiple partners, including the funder.

### Professional Learning in Science Education

There is a consensus about professional development (PD) in science, much of which comes from the Eisenhower grants' official reports and evaluations which provide an overview of what exemplary science PD looks like (Garet, Porter, Desimone, Birman, & Yoon, 2001). These exemplary practices do not differ dramatically from the general consensus about PD (Darling-Hammond, et. al., 2009; Hargreaves & Fullan, 2012; Hawley & Valli, 1999; Wei, et. al., 2010). One framework used in Illinois ITQ captures this consensus succinctly as exemplary professional learning includes: a) a content focus; b) active learning; c) coherence; d) duration; and e) collective participation (Desimone, 2009, p. 185). Further investigation into science education highlights the importance of pedagogical content knowledge (Bausmith & Barry, 2011; Magnusson, Krajcik, & Borko, 1999; Shulman, 1987) that allows content-focused teachers to engage students' understanding as a critical feature of science content pedagogy. Exemplary professional learning "incorporate(s) analysis of student conceptual understandings and implications for instruction" (Heller, et al., 2012, p. 333), in formative assessment of student work analyzed for the inevitable science misconceptions and variations in the development of science concepts (Heller et al., 2012). The significance of formative assessment writ large is also well-established (Black & Wiliam, 2001; Hattie & Yates, 2014; Wiliam, 2018), particularly where "formative assessment involves individual and mutual participatory appropriation of learning products" (Ash & Levitt, 2003, p. 23) as when teachers and/or teachers and students analyze products collaboratively and engage one another in ambitious teaching and learning of the sort the NGSS requires. In these cases, teacher and student science learning is assumed to be both socially constructed and cognitively mediated (Ash & Levitt, 2003), requiring collaboration focused on "learning products" with analytical tools that support and sustain ongoing learning, particularly where challenging or counterintuitive concepts drive instruction. But where professional development lacks specific tools to support mentoring, feedback may be in-

sufficient to support teachers' science learning (Zubrowski, 2007). Often the work is supported by a specific framework such as the Five Es (Bybee, 1997) or the CER Framework in the present study and tools like: a) rubrics (Koh, 2011) when the rubrics are instructionally useful and can demonstrate educational impacts (Popham, 1997) and b) collaboration protocols that support professional learning by imposing constraints on conversations to make them more productive (McDonald & Allen, 2017; McDonald, 2003). Calls for specificity in use of professional learning tools include those that: a) designate "a system of tools and socioprofessional routines that foster (ambitious) teaching over time" (Windschitl, et. al., 2012, p. 880); b) limit variations in practice into an accepted instructional core that is socially-mediated and part of organizational culture (City, Elmore, Fiarman, & Teitel, 2009); and c) address science (meta-) cognitions by teachers and students and place student (mis)understandings at the center of instruction and assessment (Heller, et. al., 2012). Tools, like rubrics, protocols, shared academic language, and key frameworks, support teachers to penetrate students' misunderstandings to shape practice and ensure that ambitious science instruction results in enhanced student achievement. Tools support shifts in school-wide and classroom-level discourse that allow science concepts to be developed with co-constructed tools having more influence than imposed ones (Smith & Southerland, 2007), and systems that allow teachers to make their own accommodations to assessment practice are stronger supports for science education reform generally (Towndrow, Tan, Yung, & Cohen, 2010). The present study does this: allows for a framework and tools to support professional learning in science focused on conceptual understanding and integration of key NGSS concepts and practices in use by teachers collaboratively examining student work for sophistication of understanding.

## Background

In 2003, the Center for the Study of Education Policy (CSEP) at Illinois State University audited the grant evaluation practices of all grants managed by the Illinois Board of Higher Education (IBHE). We found that only 40% of grants even submitted evaluations, a clear indication of just how ineffective their evaluation system was. Of that 40%, few had used evidence that supported claims about the grants. One outcome of that audit assigned CSEP to apply their audit recommendations for program-wide evaluations to the new NCLB federal block grants. The CSEP team then served as evaluation consultants and meta-evaluators from 2004-2017. The meta-evaluator role was novel and asserted that the IBHE should be intentional about the sustainability of grant achievements by enhancing evaluation capacity as an element of a comprehensive evaluation philosophy, described in more detail below in three phases. This implied a systems approach that embedded a set of evaluation practices at each unit of

analysis: a) the statewide program meta-evaluation that resulted in policy shifts in three-to-four year cycles; b) each partnership between a college or university and schools/school districts; c) the school level where teachers could use formative and summative findings collaboratively to support significant instructional shifts; and 4) ideally, evaluation enhanced each school's ability to inform student learning by engaging students in enhanced assessment. While a philosophy of evaluation was embedded in policy design and requirements, no specific data sources were ever required. Instead, the statewide projects and the meta-evaluation team collaborated to create an evaluation infrastructure for mutual support and accountability. In turn, each project worked with teachers to develop evidentiary sources and the tools to gather that evidence in a dynamic system of evaluation improvement embodied in annual cycles of policy enhancement by the IBHE, described below. Ordinarily this approach resulted in a major policy enhancement every three years that resulted from the collective learning of CSEP meta-evaluators, project directors in every corner of the state, and school-based educators working as partners.

### The Illinois Improving Teacher Quality (ITQ) Grant: Three Phases of Evaluation Enhancement

In this section, we describe the 13-year Illinois Improving Teacher Quality (ITQ) State Personnel Development Grant through which the IBHE sponsored 34 school-university professional development partnerships. In that 13 years, the CSEP team served as evaluation consultants and meta-evaluators of the IBHE NCLB grant portfolio, in three major phases extending from 2004 until 2017 when the final ITQ requirements were fulfilled. As previously stated, project level evaluations were never prescribed for the school-university partners. Rather, each project explored its own evidentiary needs and developed capacity to gather and use data about student learning and the effectiveness of each school-level program. In one sense, this was the opportunity to allow projects within a grant-funded program to develop their own assessment and evaluation approaches, given the shifting policy emphasis from high stakes tests to random clinical trials since NCLB. Although NCLB occurred within an increasingly high-stakes-test- oriented policy environment, in 2004 there was yet to be an insistence on a “gold standard” that mandates random clinical trials while relegating more classroom-based, locally developed formative approaches to a lower tier status (Vogt, et al., 2011), despite evidence of their utility to support instructional shifts and collaboration. Overall, we conceived our work as enhancing two key features of ITQ projects: 1) alignment with exemplary professional learning practices and 2) accountability through evaluation and the development of evidentiary sources. Sustainability was the goal for both alignment and accountability mandates.

In Phase I (2004-2006), ITQ grants were widely awarded with few requirements, other than an annual project evaluation and a compact between a school or district and a college or university. This phase resulted in tightened alignment requirements, including key features now widely recognized: professional learning is never a once-and-done but must be job-embedded with opportunities for ongoing collaborative learning at a unit of analysis beyond the individual teacher as a school-wide professional learning system (Loucks-Horsley, Stiles, Mundry, Love, & Hewson, 2010; Garet, et. al., 2001). This phase ended in 2006 when CSEP took a much more proactive role, working more directly with partnership projects, traveling the state for school site visits to explore how effectively the projects were serving schools. The school continued to be the unit of analysis given that collaborative teacher learning, exemplary as professional development, was how we envisioned the program's sustainability after NCLB funds evaporated. In the Loyola-CPS case, alignment was a given within a multi-tiered system of district- and school-level supports that leveraged funds from multiple grants and the support of many science educators, but the formative assessments that we describe below were yet to be envisioned.

In Phase II (2006-2010), ITQ meta-evaluators required compliance with exemplary practices in professional development (i.e., increased alignment) and enhancements to project evaluations (i.e., increased accountability) but did so without dictating particulars to encourage local formative assessments in which project partners had a stake. In this phase, many projects were non-renewed if they failed to design for ongoing collaboration, use of student learning evidence from the classroom, and school-level capacity building. A key moment in this phase committed the state to program theory evaluation. Program theory asserts that any program, project, initiative, or intervention has an explicit or tacit theory of action or change. An evaluation is an opportunity to test the theory (Chen, 2015; Weiss, 1997; 2000). This requirement was a watershed moment for ITQ. This provided project directors with an opportunity to reconsider project design to implement a project with a fully developed theory that required attention to school-level arrangements (alignment) as well as ways to gather and analyze evidence of teacher and student learning to test the program theory (accountability). In the case partnership between CMSE and CPS, project designers responded with an increased emphasis on alignment and coaching teachers on site. Loyola designers were also among the first in ITQ to use logic modeling, starting late in Phase I as we were developing this evaluation policy enhancement as an effective tool for laying out the parameters of the program and connecting them to the best evaluatory mechanisms to test the program theory in a cycle of continuous improvement.

In Phase III (2010-2017), enhanced standards (i.e., Common Core State Standards and the Next Generation Science Standards) increased the

policy demands to build evaluation capacity through a program theory approach for planning and guiding evaluation. This proved challenging for many projects, although Loyola embraced the challenge and continued to envision their multi-tiered system interactively as a program theory, demonstrated in annual evaluations. This period saw a winnowing of projects that were not in compliance with the sustainability vision for alignment and/or accountability with only six projects remaining. In 2016, the meta-evaluators assembled a list of ten final deliverables which placed heavy emphasis on sustainability through collaborative formative assessment as the final policy iteration from the IBHE (see Appendix A). Finally, in 2017, projects were shaped by ongoing collaboration between projects and meta-evaluators for the final phases of alignment and accountability. Alignment required matching an Illinois initiative for Professional Learning Communities (PLCs). Accountability enhancements included initiatives focused on formative assessment and action research by teacher teams. Always focused on sustainability, the IBHE asked project directors to use the final funding to ensure that schools had what they needed for continuing alignment and accountability post-ITQ. Ultimately, the meta-evaluation team sought to connect teacher professional learning systems and evidence of student learning. This would be impossible without teachers finding useful tools and protocols to use in professional learning structures like PLCs with appropriate evidence that students learned to standards. In the case of the Loyola-CPS partnership, the NGSS continued to provide an impetus for increased alignment and accountability as these standards require profound instructional shifts. Formative assessments that used the CER Framework and incorporated the Science and Engineering Practices (SEPs) served as the basis of tool and protocol creation and application, explored below.

### **Loyola University's Center for Science and Math Education (CSME) and Elementary/Middle-Level Science in Chicago**

Within the featured project, the characteristics of the final phase of ITQ for alignment and accountability can be showcased by considering any of the final six ITQ projects funded in Phase III. In the case under consideration, the Loyola Center for Science and Mathematics Education (CSME) and Chicago Public School (CPS) partners were already very focused on many of the goals/levers that IBHE had espoused over the years when the *Ten Deliverables* were issued in 2016 (see Appendix A). Overall, these ten, collapsed here to five of particular import to the CSME-CPS partnerships, included key features of high leverage instructional practices: 1) high quality science instruction applying curriculum, instruction, and assessment as the key constituents of content pedagogical knowledge; 2) standards-based alignment of that instruction to include, in this case, Science and Engineering Practices; 3) high quality professional learning

systems focused on each school (alignment); 4) assessment and evaluation well-designed to test the CSME program theory, connecting how teacher learning affected student outcomes (accountability); and 5) leveraging multiple grants using the IBHE philosophy to sustain not only exemplary practice but also to leverage alternative funding. The CSME team of scientists, professional development designers, instructional coaches (all former classroom teachers), and educational researchers/evaluators designed and facilitated professional learning focused on middle grades science teachers originally, but by the final project year was serving science educators from K-8, the elementary/middle-level configuration in most Chicago Public Schools.

As part of their focus on IBHE's meta-evaluation and *Ten Deliverables*, two are highlighted in the present case: 1) #2. *Documentation of a research-based assessment system designed and executed to collect and analyze student learning outcomes at the classroom and school levels* and 2) #5. *Documentation of collaborative formative assessment cycles that strategically reengage students on a daily basis as insights about student learning are used to reengage with specific intentions*. In response, Loyola University Chicago's Center for Science and Mathematics Education (CSME) developed a formative assessment project designed to create and evaluate formative assessment tools and protocols for science teachers in elementary school and middle school, based on the NGSS. This project took place over two years, with Year 1 as a pilot year for rolling out the specific tools and processes that were utilized to generate the data in Year 2 that will be discussed in detail below.

In Year 1, 23 teachers from 11 schools participated in four Professional Learning Community (PLC) sessions over the course of academic year 2015-16. The schools participating in Year 1 had student populations that were predominantly Latiné (> 95% of students) and predominantly low income (> 95 % of students received free/reduced lunch). Across the PLC sessions teachers were introduced to instructional strategies that were aligned with NGSS Science and Engineering Practices (SEPs) 6 and 7. One such strategy was the Claims, Evidence, and Reasoning (CER) Framework (McNeill & Krajcik, 2011) that can be used to help students engage with those SEPs. The CSME team designed a rubric based on the CER framework and developed a process informed by the Bear Assessment System (Sloane & Wilson, 2000) and the Tuning Protocol (MacDonald & Allen, 2017) to help teachers collaborate with each other to look at student work. Based on teacher feedback and evaluator input, both the rubric and the process were refined in Year 2. The design of the rubric is such that scores for Claims, for Evidence, and for Reasoning are assigned separately. This makes the rubric usable across grades K-8; for grades K-5 only the Claims and Evidence scores should be used, since according to the NGSS, the expectation for reasoning is not developmentally appropriate until the 6-8 grade band. All data presented below are from Year 2 (the



2016-17 academic year), utilizing the rubric shown in Appendix B.

In Year 2, the 31 teachers who participated in the project for the duration of the school year were from 12 Chicago Public Schools (CPS); ten serving students in grades K-8, one school serving students in grades K-5, and one school serving students in grades 6-8. Demographics of the participating schools were comprised of primarily low-income, Latiné youth (11 schools) and African-American youth (one school). There were ten teachers from the K-2 grade band, ten teachers from the 3-5 grade band, and 11 teachers from the 6-8 grade band. Schools were selected for participation in the project based on their administrators' willingness to support the project's goals. Schools' prior partnership/participation with CSME ranged from four to ten or more years; therefore, the majority of participating schools had prior exposure to the overall ITQ goal of implementing high quality standards-based instruction. The schools had a strong desire to participate in the project's goals for the 2016-2017 school year. However, only six of the 31 teachers had participated in the Year 1 pilot project.

In Year 2, the rubric was introduced to the teachers during quarterly PLC sessions provided in the 2016-2017 school year. At PLC 1, the teachers were introduced to the rubric, and they engaged with the rubric by scoring student work samples provided by CSME. Teachers first watched a video (<https://youtu.be/E4eWYg3jrf8>) that was made during Year 1, which showed the teachers using the rubric and additional scoring tools during the process of coming to consensus, in order for them to see how teachers engage in collaborative, evidence-based discussions. The scoring process involved teachers individually scoring the student work samples with the CER rubric and then sharing the scores they assigned using samples with groups of 3-5 teachers at similar grade levels. The teacher groups then discussed the samples and the scores they assigned them, and achieved group consensus on the scoring of the student work samples. After this practice round of applying the rubric, teachers were asked to select appropriate upcoming lessons for their own classes that would be assessed using the rubric.

At PLC 2 (Time 1) each teacher brought four representative samples of their students' work (i.e., samples that represented a range of student performance in the teacher's class). These scores were referred to as Original Scores (see Table 1 for more information). A group of 3-5 teachers then individually scored these work samples using the formative assessment rubric. These scores were referred to as Second Scores. Finally, the group discussed their individual scores to work towards consensus. These scores were referred to as Consensus Scores. In addition to the four samples they brought to PLC 2, teachers were asked to use the rubric to score all of their students' work for the assignment.

At PLC 3, teachers were provided formative feedback strategies that were linked to the rubric and could be used to formatively instruct/re-

engage their students. These strategies included working with students in small groups to design models that accounted for the evidence that they collected during their investigations. Teachers also worked with CSME staff to select an appropriate activity for the next round of scoring.

At PLC 4 (Time 2), teachers scored a second round of student work samples using a similar process as in PLC 2 but based on a different scientific investigation.

**Table 1**

***Data Labels and Descriptions***

Label	Description
Original Scores	Scores provided by teachers of their own students' work
Second Scores	Scores provided by teachers of other teachers' students' work
Consensus Scores	Scores provided by teachers of other teachers' students' work – achieved through consensus of 3-5 teachers

For Original Scores, 26 teachers individually scored their own students' (n = 628) work samples using the rubric during Time Point 1. Seven teachers individually scored their own students' (n = 135) work samples using the rubric during Time Point 2 (see Table 2). For Consensus Scores, 24 teachers provided their student work samples (n = 93) during Time Point 1. Twenty-seven teachers provided their student work samples (n = 108) during Time Point 2. These samples were scored first individually then scored collaboratively. Twenty of the teachers from Round 1 also provided student samples in Round 2 (see Table 3).

**Table 2**

***Original Scores***

	# of student work samples (# of teachers)
Time 1 (Jan)	628 (26)
Time 2 (June)	135 (7)
Total	763

**Table 3**

***Consensus Scores***

	# of student work samples (# of teachers)
Time 1 (Jan)	93 (24)
Time 2 (June)	108 (27)
Total	201

Data Analysis

**Evidence of impact of the process on teacher knowledge and skills.** One way to examine this is to compare the scores achieved by consensus [Consensus Scores] to the scores achieved by teachers scoring other students' work [Second Scores]. In Year 1, we saw the greatest difference between Consensus Scores and Second Scores were observed at Time Point 2. This could be reflective of the teachers grappling more deeply with the rubric at Time Point 2 that they did at Time Point 1, and the growth of teachers' understanding of what constitutes evidence of their students' grasp of Claim, Evidence, and Reasoning. Conversely, in Year 2 there was little variability between the Consensus Scores and Second Scores at either Time Point. This is not surprising because some of the teachers in Year 1 of the project also participated in Year 2 of the project, thus the group as a whole had a greater familiarity with the rubric. Additionally, all of the participating teachers in Year 2 had access to instructional coaches and during coaching visits, coaches had also helped some teachers become more familiar with the rubric by walking through an example with them, scoring sample work together, and discussing their reasoning. They also helped teachers improve their ability to identify relevant tasks for formative assessment.

In Year 2 there was some variability in the Reasoning Consensus Scores on the rubric in both Time Point 1 and Time Point 2. This is not surprising because the Reasoning dimension of the rubric requires the most cognitive demand, which may lead to varying interpretations of this dimension by teachers (and students). It is also significant to note that throughout this process teachers were permitted to change their Second Scores after discussing their scores with other teachers. This may have influenced the Second Scores and made them less heterogeneous and more similar to the Consensus Scores. Approximately 10-20 percent of original Second Scores were changed post the consensus process. (see Table 4).

**Table 4**

***Difference Between Second Scores and Consensus Scores***

Rubric dimension	Mean of second scores (standard deviation)	Number of second scores	Mean of consensus scores	Number of consensus scores
Claim time 1	2.40 (.741)	93	2.41 (.967)	88
Evidence time 1	2.02 (.740)	85	2.00 (.883)	78
Reasoning time 1	1.60 (.746)	47	1.50 (.987)	40
Claim time 2	2.58 (.630)	108	2.61 (.748)	105
Evidence time 2	2.06 (.823)	84	2.02 (.892)	104
Reasoning time 2	1.49 (.919)	64	1.56 (.974)	64

*Rubric Scales:* Claim, 0 = not evidence, 1 = emerging, 3 = proficient; Evidence and Reasoning, 0 = not evident, 1 = emerging, 2 = intermediate, 3 = proficient.

**Evidence of reliability of teachers' individual scores of their students' work.** There was no significant difference between teachers' scores of their own students' work and teachers' scores of other students' work. This suggests that teachers' individual scores of their student's work were not influenced by the teachers' bias to overrate or underrate their students' performance [see Table 5].

**Table 5**

***Difference Between Second Scores and Consensus Scores***

Rubric dimension	Mean of second scores (standard deviation)	Number of second scores	Mean of consensus scores	Number of consensus scores
Claim time 1	2.28 (.954)	80	2.39 (.741)	80
Evidence time 1	2.12 (.923)	76	2.05 (.752)	76
Reasoning time 1	1.71 (.750)	41	1.62 (.728)	41
Claim time 2	2.70 (.873)	20	2.60 (.718)	20
Evidence time 2	2.33 (.985)	12	2.25 (.905)	12
Reasoning time 2	1.69 (.873)	16	1.61 (.810)	16

*Rubric Scales:* Claim, 0 = not evidence, 1 = emerging, 3 = proficient; Evidence and Reasoning, 0 = not evident, 1 = emerging, 2 = intermediate, 3 = proficient.

Evidence of impact of the process on student performance. Teacher's individual scores of their own student work [Original Scores] were examined at both Time Points in order to measure student growth. In Year 2, the data collection process included the four student samples used in the consensus process and scores on the assignment from the teachers'

entire class (one whole class data-set per teacher). A paired sample t-test was run between the original scores on the Claim, Evidence, and Reasoning dimensions of the rubric. The pairing was accomplished as follows: Teachers' four student samples were coded and matched for both time points; however, classroom data was not coded. Therefore, although the data was collected from the same classes, it is possible that not all the data are paired samples (e.g., students that leave mid-year or join mid-year). Students performed significantly better at Time Point 2 when compared to Time Point 1 on all dimensions of the rubric [ $p < 0.01$ ]. This suggests that students improved in their performance on the CER framework throughout the school year [see Table 6].

**Table 6*****Change in Student Performance***

Rubric dimension	Mean of original scores (standard deviation) point 1	Number of original scores point 1	Mean of original scores (standard deviation) point 1	Number of original scores point 2	$p \leq .05$
Claim	2.10 (1.042)	115	2.45 (.881)	115	.003
Evidence	1.77 (.879)	115	2.07 (.956)	115	.006
Reasoning	1.60 (.746)	47	1.50 (.987)	40	

*Rubric Scales:* Claim, 0 = not evidence, 1 = emerging, 3 = proficient; Evidence and Reasoning, 0 = not evident, 1 = emerging, 2 = intermediate, 3 = proficient.

**Re-engagement and sustainability.** Beyond student growth there is some evidence that the formative assessment project showed sustainability and evidence of re-engagement. Re-engagement can be examined from multiple perspectives: *coach-teacher*, *teacher-teacher*, and *teacher-student*.

The very nature of the formative assessment project enhanced teacher use of re-engagement strategies with their students. (Re-engagement, like collaborative formative assessment, is one of the *Ten Deliverables*). Teachers introduced their students to the CER framework in the beginning of the school year, and then re-engaged them in the same process later in the school year. Additionally, the project's coaches provided strategies to help guide teachers in the re-engagement process. One example of formative feedback integrated in the project was in PLC 3 when the coaches had the teachers look at a work sample assessed using the rubric. The teachers were asked to determine whether the task engaged the student in SEPs 6 and 7. Additionally, throughout the PLC sessions coaches incorporated examples of developmentally appropriate responses with regard to the reasoning dimension.

Of the 12 schools, seven included the formative assessment pro-

cess in their vertical team meetings, as evidenced by verbal confirmation from the coaches or from the vertical team meetings agenda notes. For example, one school's vertical team meeting agenda reported a goal of the meeting was to deepen the teachers' understanding of the three dimensions of NGSS. Two of the activities during the meeting included reviewing the CER framework and SEPs 6 and 7 and looking at student work while using the CER rubric. During vertical team meetings at the same school, teachers were asked to reflect on how the CER framework supports students in learning SEPs 6 and 7.

## Discussion

When different approaches to supporting pedagogical content knowledge are examined as they have been in the Loyola-CPS partnership, trends emerge that link instruction to professional development activities that are intentional about the particulars of science education and the need for supporting teachers to understand both content in general and students' understandings of key science concepts in particular. In the statewide ITQ project, meta-evaluators, project directors, university-based staff, school-based educators, and eventually students were intended to come together under a regime of enhanced learning standards to employ exemplary practices in professional learning and find ways to link teacher and student learning. In this schema, both alignment of professional learning practices based on content pedagogical knowledge and ongoing, supported collaboration and accountability to all stakeholders, including federal funders, could be addressed.

The IBHE and its consultant/meta-evaluators intended program theory applied flexibly to test professional learning designs (alignment) and evaluation processes and structures that would eventually allow the statewide program and each project to make claims that professional learning arrangements indeed improved student learning outcomes (accountability). This did not mean applying the so-called "gold standard" of causal proof using experimental designs, but rather applying program theory in which clarity in making connections between project activities and a rich set of triangulated evidentiary sources through a design logic allows projects to make credible claims for both teacher and student learning (Weiss, 1997). In this approach, program leaders and project designers can surface tacit assumptions about how the project will work, test them, and answer multiple design questions, "not only the what of program outcomes but also the how and the why" (Weiss, 2000, p. 35). Only in this way can sustainability be ensured as continuous improvement is only possible with evidence that answers core questions in real time and in authentic contexts of practice. In addition, the statewide approach to evaluation encouraged a collaborative, multi-tiered systems of collaboration intended to provide evidence of learning to everyone, from federal funders to stu-

dents who need evidence that engages them to take responsibility for their own learning to high standards like the NGSS.

These features of alignment and accountability are evident in the Loyola CSME-CPS partnership, particularly when we look at the application of program theory and the evidentiary sources available to meet the needs of each of the statewide program's core constituents. In terms of alignment, of the *Ten Deliverables* (Appendix A), the Loyola-CPS science education project was a leader among the final six ITQ projects, fulfilling all the alignment policies the IBHE mandated to reinforce teachers' science pedagogical content knowledge, including the school-based nature of sustainable collaborations and an emphasis on formative assessment to link teacher and student learning in cycles of ongoing improvements. In terms of accountability, the connections drawn between key project features, in this case the CER Framework used as a rubric and a protocol for collaboration linked to intended learning outcomes for teachers and students. These connections are not loose but rather make plain what teachers learned because they had a tool within a strong conceptual frame and were allowed to use it in variety of collaborative learning contexts. In the findings above, teacher learning was documented, and that learning was not superficial. It engaged teachers in really looking at science concepts and how well students understood them. In this way, the value of teacher teams, professional development training on the tool, and the intervention of expert coaches was verified in the results that demonstrate that the tool and processes helped teachers acquire key content pedagogical skills through formative assessment, enough so that they were able to re-engage their students. This is crucial because formative assessment that can speak to science at the level of students learning theory (science) and how to apply it (engineering) because their teachers understand underlying concepts and can see when learning is made visible how to intervene to support students to make meanings from scientific phenomenon and imagine applications as the NGSS envisions.

Education policy at the national level has shifted and become much less open to formative assessments with the features of the Illinois ITQ program and the Loyola CSME-CPS collaborators own designs for formative assessment and evaluation. For one thing, partnerships are no longer encouraged and are, arguably, discouraged with universities having diminished status as partners for professional learning, even though it is difficult to imagine science education advancing without the support of universities. Formative assessment too is discredited in favor of the "gold standard" of experimental design, even though this is very difficult for teachers to do collaboratively in schools, the unit of analysis wherein we believe the possibility of sustainable instructional shifts are most likely to take root. This case study offers some advice for how to work locally in authentic ways with tools and frameworks that engage us all in deeper learning of the sort that real reform of science education will require.

Grassroots sustainability is still possible if we hold to what we know about professional learning (alignment) and evaluation capable of testing our unexamined theories (accountability).

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## **APPENDIX A: Ten Deliverables for the Final ITQ Funding Cycle (2016-17)**

(From the 2016-17 Renewal Application,  
Illinois Board of Higher Education)

Final 2016-2017 deliverables will include the following, and successful proposals will document with specific evidence how each of these deliverables will be achieved in every partner school. This documentation with evidence requires appropriate analysis and specification of implications and recommendations for each school.

- 1) Documentation of a school-wide system of continuous improvement that builds capacity to assure cumulative improvements in teacher and student learning that includes evidence of a demonstrable commitment to building or enhancing such a system by committed school principals;
- 2) Documentation of a research-based assessment system designed and executed to collect and analyze student learning outcomes at the classroom and school levels;
- 3) Documentation of partners' participation in systematic cycles of planning, doing, and reviewing as they examine all aspects of curriculum, instruction, and assessment that contribute to enhanced student learning;
- 4) Documentation of multiple iterations of cyclical continuous improvement through assessment, using ITQ tools, indicators, and findings as vehicles of teacher learning understood as essential to boost student learning to achieve enhanced standards at the level of teams and school-wide;

- 5) Documentation of collaborative formative assessment cycles that strategically reengage students on a daily basis as insights about student learning are used to reengage with specific intentions. Re-engagement then becomes an evidentiary consideration at the team and school levels;
- 6) Documentation of distributed leadership in a standards-based improvement model mediated principally by teachers in two spheres of continuous improvement: 1) classroom engagements and 2) the collaborative world of selecting, defining, and solving problems with colleagues, coaches, principals and other leaders;
- 7) Documentation of assessing, planning, and implementing collaborative professional learning systems that include university staff and faculty to meet the specifications of the new RFP;
- 8) An Executive Summary providing context for the school cases as an overview of the means and mechanisms intended to ensure sustainability and institutionalization;
- 9) Full descriptions of virtual or other means to continue partnership relationships; and
- 10) Dissemination of documented local systems of learning and ongoing improvement with developed implications as a host or co-host of a conference or meeting, emphasizing local and regional venues including but not limited to ROEs, university-based regional conferences and workshops, statewide content area venues, and others that allow for other Illinois projects, educators, schools, districts, and universities to benefit.

## APPENDIX B: CER Framework Rubric

*Example: Students articulate a statement that relates the given phenomenon to a scientific idea, including that the speed of a given object is related to the energy of the object (NGSS Evidence Statement, 4-PS3-1)*

	Not Evident (0)	Emerging (1)	Intermediate (2)	Proficient (3)
<b>Articulating the relationship to phenomena (Claim)</b> Students articulate a statement that relates the given phenomenon to a scientific idea.	Does not attempt to make a claim.	Makes an inaccurate and/or incomplete claim. “Some objects have more energy than others.” “All objects have the same amount of energy.”		Makes an accurate and complete claim. “The faster an object is moving, the more energy it has.”
<b>Evidence</b> Students identify and describe the evidence necessary for supporting the claim	Does not describe evidence.	Evidence is described, but it either does not support the claim or is inaccurate. “The gong made sound when the ball hit it.” “The gong made no sound when the ball hit it.”	Evidence is described and some (but not all) pieces support the claim. “The gong made the loudest sound when it got hit with the fastest ball. The ball bounced off and rolled away.”	Every piece of evidence described supports the claim. “In our investigation, we had one fast ball and one slow ball. The gong made a loud sound when it was hit with the fast ball. The gong made a softer sound when it was hit with the slow ball.”
<b>Reasoning and Synthesis</b> Students use reasoning to describe why or how their evidence supports their claim.	Does not provide reasoning.	Reasoning does not scientifically or logically support the claim. “The faster ball had less energy.” “I know the faster ball had more energy because of baseball.”	Reasoning is scientific and logical but is incomplete or does not connect evidence to the claim. “The faster ball hit the gong harder.”	Reasoning is scientific and logical and connects all evidence to the claim. “The faster ball made a louder sound because it transferred more energy to the gong. Faster objects have more energy than slower objects.”

**Dianne Gardner Renn is an associate professor at Illinois State University**

**Rachel Shefner is an assistant provost at Loyola University, Chicago.**

**Kelly Holmes is a licensed school psychologist at Delaware Public Schools and adjunct professor at Pepperdine University**

**Stacy A. Wenzel is an associate research professor at Loyola University, Chicago**

**Eric Osthoff is an educational consultant.**



## THE ROLE OF A PRINCIPAL IN BRIDGING THE GAP BETWEEN EDUCATIONAL POLICY AND THEORY

*The principal can create dynamic changes across a school and district if they are willing to partner with other educators and policy makers to build trust along a common understanding of the purposes of education. In crafting this shared definition or vision, the instructional leader would be wise to turn to the educational philosopher, John Dewey. Dimitriadis and Kamberelis (2006) state that, “For Dewey, the purpose of education is the intellectual, social, emotional, and moral development of the individual within a democratic society” (p. 9). This definition focuses on the development of the individual freed from what that individual stands to gain, and, even more importantly, what others stand to gain. It pulls away from the anthropocentric version of society specifically in capitalistic societies, and allows the individual to become the author of their own experience. As authors or creators, students can choose to use their abilities to create something new or solve societal problems.*

### Introduction

The instructional leader has a responsibility to create an authentic public space for the classroom teacher to operate as a transformative intellectual. This may be accomplished in pockets of an educational institution if trust has been established among teachers, administrators, students, and families, but there are a number of obstacles that work against these relationships and even more that prevent synergistic relationships from becoming the status quo. The principal can create dynamic changes across a school and district if they are willing to partner with educators and policy makers to build trust along a set of common understandings of the purpose of education. It is my goal to name those obstacles that prevent this work from happening as well as pose a way forward for all concerned parties to be a part of an educational space that no longer views the current conditions as immovable objects that we must learn to work within.

Defining the terms “authentic public space” and “transformative intellectual” are essential to a clear understanding of the role of the instructional leader. In the article “The Dialectic of Freedom,” Maxine Greene discusses freedom as the “opening of spaces as well as perspectives” (1988, p.5). Greene continues, “For Jean-Paul Sartre, the project of acting on our freedom involves a rejection of the insufficient or the unendurable, a clarification, an imagining of a better state of things” (1988, p.5). Authentic public space is a declaration made by both the classroom

teacher and student that this classroom is a place where all perspectives are valued, and that by naming that our current society has a number of untenable issues, then together they may imagine a better state of things within that space. It is the responsibility of the principal to create and support the conditions within which that declaration of freedom can be made. The relationship between teachers and students in a classroom is tantamount to sustainable change within a school and within society. In order for this change to take place, the teacher in the classroom must act as a transformative intellectual. Henry Giroux describes the teacher as a transformative intellectual in this way:

As intellectuals, they will combine reflection and action in the interest of empowering students with the skills and knowledge needed to address injustices and to be critical actors committed to developing a world free of oppression and exploitation. Such intellectuals are not merely concerned with promoting individual achievement or advancing students along career ladders, they are concerned with empowering students so they can read the world critically and change it when necessary (1988, p. xxxiv).

In order to operate in this way, teachers must be empowered as professionals in spite of the current reforms that would reduce teachers to technicians as opposed to intellectuals, and educational leaders must help change the public perception of the teacher's role. Teachers are reflective practitioners who are educating students to be thoughtful, active citizens. They are not technicians along an assembly line boxing up standards and depositing them in student's minds. The authentic public space can be created through the empowerment of teachers around a clear purpose for education, the shift of public perception about the work of educators, and an extension of trust built through strong collaboration and relationship building.

### The Obstacles

The first obstacle that educational leaders must overcome to accomplish the goal of creating authentic public space is that there are competing visions of the purposes of education. David Labaree outlines three competing goals for American education in his article "American Struggle over Educational Goals." Labaree (1997) uses the following phrases to describe the competing goals: democratic equality, social efficiency, and social mobility. According to Labaree, the goal of democratic equality says that the purpose of education is to prepare citizens because a democratic society cannot persist unless it prepares all of its young with equal care to take on the full responsibilities of citizenship in a competent manner. The goal of social efficiency outlines an approach to education that says our economic well-being depends on our ability to prepare the young to carry out useful economic roles with competence. Finally, the social mobility



goal argues that education is a commodity, the only purpose of which is to provide individual students with a competitive advantage in the struggle for desirable social positions. These goals reinforce the thinking that has dominated the American education system by examining education as either a public transformative or private transactional good. Henry Giroux (1988) writes, “Instead of defining schools as extensions of the workplace or as front-line institutions in the battle of international markets and foreign competitions, schools should be defined as democratic public spheres that are constructed around forms of critical inquiry that dignify meaningful dialogue and human agency” (p. xxxii). The American education system would be well served to strip education from the primary responsibility of providing students credentials for status attainment or making sure they are ready to support the 21st century job market.

Understanding an educator’s *why* is essential on the path to becoming a transformative intellectual, and if that reason has been co-opted by miseducative experiences around the purpose of education then that can be a damaging and dangerous obstacle for students. I believe the framing that has been left unarticulated is if educators and others consider the student as an individual with their own goals and gifts or if we consider the student as a commodity whose worth is determined by what they can contribute to society as a whole. In fact, it may be that we have deceived ourselves as an institution by saying that we focus on the student’s individual gifts but in reality, it is only in an effort to steer them towards what will most benefit the industry within which those gifts may be used.

Similarly, supporting the social mobility goal of education which focuses on the individual’s own status attainment, we find ourselves still reinforcing the “prevailing economic mode of production” by instilling the popular ideology of meritocracy, the notion that one has earned one’s place in a capitalist society through individual effort. Dimitriadis and Kamberelis summarized Karl Marx’s concept of ideology, “Schooling in capitalist America is, ultimately, about reproducing the capitalist class system, making it seem fair and ‘natural’” (2006, p.33). Jean Anyon’s (1980) work certainly supports this notion in her study of five fifth grade classrooms in different social classes that clearly demonstrated that the pedagogy and curriculum were tied to the labor outcomes each social class was expected to contribute. When schooling is tied to market outcomes, we lose sight of the autonomous nature of the individual who deserves the ability to navigate their own freedom. Diane Ravitch (2016) argues in her book, *The Death and Life of the Great American School System*, that the federal and state policies have turned education into a competition has industrialized education and departed from the original purpose. It is this departure that began with the publication of *A Nation at Risk* (1983) and the following standardization and testing policies under No Child Left Behind and Race to the Top that led to a fundamental questioning of public education, leaving the door open for school choice advocates who stand to gain

from a more polarized citizenry.

S. Alexander Rippa's work, "Education In a Free Society: An American History," outlines the founders' purpose of education in three parts: 1) uplift the well being of the citizenry; 2) utilize natural science for the service of man; and 3) strengthen nationalism/duties of American citizenship (1984). Certainly, this follows Labaree's (1997) definition of democratic equality, which argues that a democratic society cannot persist unless it prepares all of its young with equal care to take on the full responsibilities of citizenship in a competent manner. I, among many, would argue that the primary issue is "equal care." Both the democratic equality tradition and the social efficiency tradition are inherently hostile to the growing effort to reduce public education to a private good. Neither is able to tolerate the social inequality and social inefficiency that are the collective consequences of this shift toward private control. Antonio Gramsci's theory of hegemony, defined in Dimitriadis and Kamberelis (2006) as "a social condition in which all aspects of social reality are dominated by or supportive of a single class," applies here as, behind the scenes, the privileged classes delight as people argue over the definitions of citizenship education which further divides and pushes large portions of society to become more homogenous as political actors push a "school choice" agenda. Labaree (1997) writes, "The rise of private schools as education is promoted as a private good - the government is asked to abdicate its role in educational matters, while the consumer is crowned king" (p. 74). While Labaree may have seen evidence of this movement in 1997, it has grown to a full-fledged assault on public education today.

As I've indicated, the competing-purposes-of-education obstacle grows larger and more foreboding when the actors driving the competing definitions are named. It is not surprising to anyone in the field of education that there is a constant struggle between those that are creating educational policy and those responsible for carrying out policy. The dichotomy of relationships between politicians, school boards, school administrators, teachers, families, the community at large, and students is complicated by a variety of motivations and personal investments in the outcomes of schooling. Storm's *Seven Arrows* (1972) describes the idea of an object placed in the center of a circle surrounded by individuals. Each person has a different vantage point of the object and their perceptions are influenced by their own experiences and innate characteristics. Storm gives the example of a painted drum and then complicates the matter further by suggesting that an idea can be placed in the center of the circle, and that the ephemeral nature of the idea leads to even more interpretations than those of that of the principal object.

I am struck by the idea that in education it is not an object or even an idea that we place in the center of the circle. It is the student that everyone in the educational circle places their own experiences, motivations, innate beliefs, and goals upon. All stakeholders struggle with the idea of

not having some form of control over what is happening in the classroom because the stakes are so high for families, politicians, or administrators. It is no wonder then that there are conflicting conceptions of the purposes of education from the politics to the visions of our founders to the educational philosophers based upon their place around the circle. In reality, it is left to teachers and students with their own influences and goals to apply these conceptions in practice. This situation is rife with the potential for conflict, and it is difficult to trust without authentic relationships. It is the role of the principal to cast a vision for a school that brings collective understanding and commitment to this vast array of perspectives and build the relationships that lead to the trust needed to believe that things don't have to be the way they have always been.

Educators in the classroom can also opt in their own way. A core element of a transformative intellectual is the ability to be reflective of one's personal beliefs and practices. Educators must be committed to growing their personal practice as both experts in pedagogy and their content area with a clear lens on being facilitators of educative experiences. Educators unwilling to grow or reflect communicate a message to others that they are not worthy of the authentic public space that is so desperately needed. Better conditions are needed in terms of class sizes, evaluation models, ability to collaborate with peers, and access to meaningful professional development in order for educators to be given the space to grow as transformative intellectuals. This is where Maxine Greene's (1988) idea of "freedom to" think the world anew despite the current conditions is so essential for educators.

### Solutions

Now that we have established that both the competing goals of education and the actors that influence those goals are clear obstacles to the authentic public space needed for transformative intellectuals to work within the classroom, I would like to offer a goal and perspective that may begin to create the space that is needed. John Dewey is a founder in educational philosophy, and he offers that "the purpose of education is the intellectual, social, emotional, and moral development of the individual within a democratic society" (Dewey 1961). This definition focuses on the development of the individual freed from what that individual stands to gain, and even more importantly, what others stand to gain. It pulls away from the anthropocentric version of society created specifically in capitalistic societies, and allows individuals to become the authors of their own experiences. As authors or creators students can choose to use their abilities to create something new or solve societal problems. Dewey's definition of an educative experience, "as one that broadens one's horizons of experience and knowledge and leads in a constructive direction toward intelligent action" gives the teacher and student the space to inquire, hypothesize, and

construct a new way of thinking and acting in the world (Dewey, 1938). It removes the competing motivations of those outside the classroom and allows students the space to create the world anew.

An instructional leader is strategically positioned to cast a vision for a school that seeks to fuse the needs of students, families, and teachers. It is within this vision and the action steps that follow that the instructional leader can create authentic public spaces around shared beliefs about the purposes of education. The principal must cast a vision that gives space for students to grow habits of mind that lead to personal growth while giving educators the freedom to be facilitators and nurturers of the students' individual growth.

The phrase "give space" is certainly loaded. It indicates a form of "freedom from" which is a more limited form of freedom than the self-discovery that Maxine Greene (1988) would hope for but is nonetheless difficult to attain. The principal would hope to gain educators a freedom from the interference of policy that carries with it the agenda and biases of those outside of classroom walls. The crux of this ability to obtain "freedom from" hinges on the growth of the individual educators and students to attain "freedom to." In Dimitriadis and Kamerlis's analysis of John Dewey they comment, "Education is thoroughly social, providing individuals with personal investments in social relationships and control, and the habits of mind which secure social changes without introducing social disorder" (2006, p. 9). In order for that vision to be received, those concerned must have trust not only in the message, but also in the messenger. It is essential for the principal to be relational, not only in building relational trust with the community but also as an exemplar for the type of messenger that students and families alike could believe in. This relational trust is built on authenticity and belief in the power of students.

The importance of the rhetoric of the "transformative intellectual" cannot be overstated. Henry Giroux offers that, in this context, teachers are more than "performers" professionally equipped to realize effectively any goals that may be set for them. Rather they should be viewed as free men and women with a special dedication to the values of the intellect and the enhancement of the critical powers of the young" (1988, p.125). Additionally, Giroux remarks that teachers as transformative intellectuals "must work to create the conditions that give students the opportunity to become citizens who have the knowledge and courage to struggle in order to make despair unconvincing and hope practical" (1988, p.125). Students must be able to speak with their own voices, before they learn how to move outside of their own frames of reference, before they can break from the common sense that prevents them from understanding the socially-constructed sources underlying their own self-formative processes, and what it means to both challenge the latter and to break with them.

My vision is that all students in my school will be around educators who facilitate educational experiences that inspire all students to

reach their full potential. The core values of Inclusiveness, Optimism, Collaboration, and Integrity are what attract and connect transformative intellectuals to one another. When the right people are centered around the right vision, we are able to recognize opportunities to know, support, and celebrate each student. The principal must be intentional that there are important shared beliefs in the organization that must be expected from the teaching staff. Creating space or relational trust is not dependent on a complete and homogenous buy-in to the vision. The school must be viewed as a mosaic in which each unique teacher and student are valued while the vision serves as the glue binding the pieces together into a shape that can be trusted as a whole by the school community.

Trust is built through authentic relationships. Relationships are given the space to grow when student agency is allowed to thrive uninhibited by actors that seek to control both the processes and outcomes of the students' educational experiences. My hope is that by naming a few of the obstacles that threaten the existence of authentic public spaces for transformative intellectuals to facilitate educative experiences for students, they lose some of their power. My hope is that this becomes the customary practice or praxis of the work in education. A principal who can operate as a connector and trust builder across stakeholders around a clear vision for this kind of school experience is essential to the work of building a school where all students and teachers can commit daily to being agents of change.

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**Ethan Davis is a doctoral student at the University of Oklahoma and a principal of Whittier Middle School in Norman, OK.**



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