

School Reform Policies and the K-12 Classroom: Implications for Teaching,
Learning, and Motivation

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Abstract:

Over the past century, changing student demographics, shifting economic and social conditions, and an escalating succession of educational reform rhetoric and policies radically transformed the teaching and learning conditions of public education in the United States. In this entry, we discuss the nature of educational reform over time, focusing on the reform efforts of recent decades including the No Child Left Behind Act of 2002. We discuss what we believe are the effects of these reforms on classroom instruction, teacher-student interactions, and student learning. We conclude with recommendations for policy and future research.

Over the past century, changing student demographics, shifting economic and social conditions, and an escalating succession of education reform rhetoric and policies radically transformed the teaching and learning conditions of public education in the United States (Glass, 2008; Jennings, 2015; Herman & Haertel, 2005). In just one-century, and especially over the past few decades, the public-school student has changed dramatically. They are more ethnically, culturally, and linguistically diverse, the social conditions in which they live are more complicated, and the demands placed upon them are more intense and numerous than at any other point in our history (Aud, Fox, & KewalRamani, 2010; Good, 2000; Nichols & Good, 2004; Nichols, 2016). For example, an increasing percentage of students are from ethnic minority backgrounds. The percentage of Hispanic students in K-12 public education schools increased from 16% to 26% between 2000 and 2015 and is projected to rise to 29% by 2027. By contrast, the percentage of white students has decreased from 61% to 49% over the same time period and is expected to drop to 45% by 2027 (McFarland et al., 2018; Snyder, de Brey, & Dillow, 2018).

There are more students for whom English is a second language (ELL) and who are served under the Individuals with Disabilities Act (IDEA) (students identified for special education services). From 2000 to 2015, the percentage of ELL students in schools rose from 8% to 9.5% and for special education students, it rose from 8% in 1976 to 13% in 2015 (Snyder et al., 2018). Special education students are increasingly served in public schools, rising from 47% to 63% between 2000 and 2015 with a majority of those students learning in general education classrooms. In the fall of 2015, a high percentage of special education students spent most of the day in general education classrooms (87% of those identified for speech or language impairments, 70% of students with specific learning disabilities, and 67% with visual

impairments) (McFarland et al., 2018). We also know that more students come from impoverished backgrounds. The rate of students living in poverty grew from 16% (of all children under 18 living in poverty) in 2000 to 21% in 2014 (Snyder, de Brey, & Dillow, 2018). Growing numbers of public education students live in poverty come from ethnic minority backgrounds, speak other languages, and are eligible for special education services.

During the same time period that saw increasing diversity among American learners, teachers have also seen an increasing (and onerous) number of state and federal legislative mandates. From the Elementary and Secondary Education Act of 1965 (US, 1965) through the Every Student Succeeds Act of 2015 (US, 2015), the rules, expectations, and oversight of a teacher's role has expanded rapidly and aggressively (Haertel & Herman, 2005; Jennings, 2015; Lavigne & Good, 2014). Today's 3-million, mostly white (80%), and mostly female (80%) teachers encounter educational conditions that are more complex, more diverse, and more tightly controlled than ever in our history.

Students' overall academic performance has been modestly improving over time. On average, students' achievement on national tests such as the National Assessment for Education Progress (NAEP) show steady improvements in math and reading since the test's inception in the 1970s (National Center for Education Statistics, 2013) and more students graduate high school (e.g., from 77% in 2010-2011 to 84% in 2015-2016, based on "adjusted cohort" calculation which is percentage of freshman who graduate within four years, McFarland et al., 2018) and go to college (e.g., the percent of high school completers enrolling in 2- or 4- year colleges has risen from 45% in 1960 to 69% in 2015) (Snyder et al., 2018). This good news is offset by ongoing problems. For example, student achievement trends and educational outcomes are far less positive for minority students, students with a disability or those for whom English is a second

language largely due to pervasive inequities in educational opportunities and experiences over time (e.g., Losen & Orfield, 2002; Nichols & Castro-Villarreal, 2016; Orfield & Kornhaber, 2001; Orfield, Losen, Wald & Swanson, 2004; Timar & Maxwell-Jolly, 2012; Vasquez-Heilig, 2011). It is against this social-cultural backdrop that we consider the relationship between educational reform efforts and what we know about the conditions of teaching, learning, and student motivation in the 21st century.

Education Reform

Debates about how to reform (or improve) America's education system have been around for centuries (Ravitch, 2000; Tyack & Cuban, 1995) and largely center on three key questions: Who should be educated? What is the purpose of education? And, how should we educate? The question of *who should be educated* has faded in importance as policies were enacted over time guaranteeing the right of a free and public education to all students. Of course, this was not always the case. In 1835 when the first public school was established only those who could pay would receive an education, and girls were excluded. By the early 1900s and with the emergence of compulsory school attendance, only white students were permitted, followed by decades of "separate but equal" access for black students (Tienda, 2017). Students with disabilities were excluded from education until the passage of the Individuals with Disabilities Education Act (first passed in 1975, amended in 1990) (Kauffman & Hallahan, 2011) and today public sentiments about undocumented and immigrant students lead to significant academic, emotional, and psychological barriers to educational opportunities for many (e.g., Bjorklund, 2018). As it relates to the reform question of who should be educated, we have made great progress, but problems and debates over opportunity and access for certain groups remain (e.g., Tienda, 2017;

McCarty, 2018, also visit www.AERA.net for annual lecture series on issues of educational equity in the era since Brown V. Board of Education).

The question of *what is the purpose of education* has been and continues to be a cornerstone of reform debates over time (Ravitch, 2000). Before the appearance of any type of formal school or education, philosophers such as Plato and Dewey offered their ideas about education that are familiar today (Bailey, Barrow, Carr, & McCarthy, 2010). For example, Plato believed in the role of education as a way to mold a citizenry that conforms to the virtues and expectations of a society, “productive individuals will live temperate lives in conformity with the tasks, traditions and practices for which they are suited by nature, as well as education and training” (Williams, 2010, p. 72). Dewey believed the role of public education is to prepare future citizens to be productive, active, and critical members of an evolving democratic society (Dewey, 2011); “Dewey steadfastly championed science and scientific inquiry throughout his many writings and felt that refining our inquiries and improving our technologies were among the best ways to mitigate social problems” (Johnston, 2010, p. 99). Throughout the 20th century, influenced by the musings of Plato, Dewey, Rousseau and others (e.g., Bailey, et al., 2010), America’s schools have been positioned as institutions charged with preparing future citizens who would be knowledgeable, productive, and participatory in a growing democratic society. Of course, what it means to be “prepared,” “knowledgeable,” and “participatory” is at the heart of the last 100 years of reforms aimed at shaping and directing the function of our public schools (e.g., Good, 2000; Hess & Kelly, 2011; Ravitch, 2000).

The third question, *how should we educate*, has similarly undergone revisions throughout history and is highly related to how our society views the purposes of education. When goals were to produce morally competent and compliant citizens, the push seemed to be for didactic,

rote learning and a curriculum that was prepackaged and delivered to students (Ravitch, 2000). By contrast, calls for a more active and concerned citizenry necessarily means a curriculum and teaching approach that fosters independence of thought, supports and encourages interest and value in the subject, and promotes outcomes of autonomy, independence, and critical reflection/metacognition. These goals have shifted overtime influencing an evolving approach to curriculum and instruction in American schools (Good, 1996; Kliebard, 2002; 2004).

Education Reform and the American Classroom: Recent Efforts and Outcomes

America's current approach to who, how, and why we educate is dominated by a sequence of federal laws passed at the dawn of the 21st century. These reforms were set in motion decades earlier through systematic and ongoing efforts to vilify the state of public education. From at least the 1950s (and perhaps even earlier) through to today, politicians in concert with the media have promulgated a narrative that public education is failing or in "crisis" (Glass, 2008) and that teachers and their students are woefully underperforming (National Commission for Excellence in Education, 1983, Good, 1996). In spite of evidence to the contrary (e.g., Berliner & Biddle, 1995), the misleading and overly simplistic narrative that the problem with education was lazy and ineffective teachers and teaching led to the popular reform approach of educational "accountability" that has come to dominate federal oversight of public education for the past few decades.

This current reform movement was set in motion by the No Child Left Behind Act (NCLB, 2002). NCLB was one of the first and most intrusive pieces of federal legislation that would control how public schools function. Prior to NCLB, the role of federal legislation was primarily to provide funding and oversight to schools to ensure access and opportunities for all students. For example, federal laws were passed aimed at ensuring at-risk students (e.g., special

education populations, students who came from impoverished backgrounds) would receive quality opportunities to learn. It wasn't until NCLB was passed that federal funds were tied to a lengthy set of conditions that states were required to follow. The directives and mandates of NCLB radically changed how we educate American students.

The 1,000-page NCLB act laid out a host of requirements states had to meet in order to receive federal funding. Key features of the law were the mandates that all states identify and describe detailed curriculum standards students must learn across all subjects and grades, a standardized test that could be used to gauge student progress against these standards, and a set of specific benchmarks students had to reach each year to demonstrate progress (as measured by state tests). Additionally, the law required that states impose a system of high-stakes consequences tied to how students performed on the state tests. The theory of action is that by attaching significant rewards or serious threats to changes in student test scores, teachers and their students will inevitably work harder, better, and learn more (as measured by tests). Because standardized test scores were the sole indicator of teacher and student success, the entire focus of education became student performance on tests.

Subsequent implementation of large-scale federal programs (e.g., Race to the Top in 2011) and an amendment to NCLB legislation (e.g., Every Student Succeeds Act in 2015) did not radically change the use of high-stakes testing for evaluating teachers and schools. In fact, under the Race to the Top grant program, the use of tests to evaluate teachers was promoted more heavily and included a press for the fatally flawed use of value-added modeling techniques for evaluating teachers (Lavigne & Good, 2014). And under the Every Student Succeeds Act, although states were given slightly more freedom from federal oversight, high-stakes testing remained a primary mechanism of reform. Students and teachers have lived under the weight of

some form of mandated high-stakes standardized testing since at least 2002, and for some even longer (e.g., Texas began in the 1990s and New York in the early 1900s) (Giordano, 2005).

Under high-stakes testing accountability systems, test scores become the central mechanism for educational reform and function as both an *effector* and *detector* of educational change. Test scores effect change because there are high-stakes consequences associated with how well students perform on them. Test scores detect change because they are used to determine those consequences. Importantly, this over reliance test scores to do the work of reform is exceedingly problematic. According to professional organizations and measurement experts, tests are not meant to function in this way (AERA, 2000; Haladyna & Downing, 2005; Nichols & Berliner, 2007; National Research Council, 1999). One insidious problem rests with how teaching and learning are affected when test scores become the sole purpose of the work. As Donald Campbell warned decades ago, “*The more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor*” (Campbell, 1975). Campbell warned us of the inevitable problems associated with undue weight and emphasis on a single indicator for monitoring complex social-cultural phenomena. Informed by Campbell’s law, evidence has emerged to understand the (corrupting) effects on teaching, learning, and student motivation when using a single standardized test score for evaluating the success of our schools, teachers, and students.

Student Learning

Although the practice of high-stakes testing gained a prominent position in educational reform with the passage of the No Child Left Behind Act (NCLB) of 2002, its use as a lever for school change preceded NCLB. Tests have been used to distribute rewards and sanctions to

teachers in urban schools since the mid 1800s (Tyack, 1974) and for most schools throughout the United States since at least the 1970s (Haertel & Herman, 2005). By the late 1990s, an increasing number of states had begun adopting test-based accountability plans; however, their form and function varied widely. Some states had developed criterion-based standardized tests, others were just starting the process. Some states were actively using tests to hold teachers and students accountable; others were in the process of developing such mechanisms. It wasn't until the passage of NCLB that high-stakes testing accountability was implemented more uniformly and throughout every state.

This evolving context made it difficult for researchers to study and isolate the effects of high-stakes testing on student learning. Even after the passage of NCLB, states varied in the ways they implemented high-stakes testing accountability. Some states were more aggressive, setting harder to reach benchmarks and including a wider range of consequences attached to tests beyond what was required by federal law (e.g., students had to pass to graduate, teachers could be fired). By contrast, other states were less aggressive and did not include an extra set of consequences beyond what the federal law demanded. This state of affairs created conditions in which researchers studying the connection between high-stakes testing policy and student learning utilized different methods and measures (Nichols et al., 2006; 2012). For example, some scholars simply counted the number of ways states held teachers, schools, and students accountable with a higher number reflecting a more aggressive accountability system (Braun, 2004; Carnoy & Loeb, 2002; Hanushek & Raymond, 2005; Swanson & Stevenson, 2002). Elsewhere, Nichols, Berliner, and Glass (2006) measured state level policy variation through a method that captured not only the number of laws in each state, but also the manner of implementation (e.g., it may be "law" to fire a teacher for under performance, but did the state

follow through? Some states did, some states did not). This measure, dubbed the Accountability pressure Rating (APR) was another way of evaluating the relative aggressiveness of accountability each state adopted.

Another dilemma for scholars studying the connection between state level accountability and student achievement was how to measure student “learning.” In general, there are two possible options. Scholars could opt to consider how students performed on each state’s standardized test; however, this was rarely done because these tests were not comparable. Therefore, in most studies scholars opted to consider student performance on the National Assessment for Education Progress, a federally funded national exam (sampled at the state level) that allows for state-level comparisons and general inferences about what students actually “learn.” Since students are not directly prepared for these tests and because of its intention to cover academic domains (reading and math) all students encounter, it is widely believed to be an acceptable (albeit imperfect, see GAO, 1993; National Superintendents Roundtable, 2018) way to gauge and measure how much students “learned” in any given subject and grade level. Analyses between scholars’ interpretations of state level accountability laws and NAEP achievement over time provide most of what we understand about the effects of high-stakes testing policy on student achievement.

Evidence suggests that the negative impact of high-stakes testing on teachers and students is greater in contexts where accountability is more severe (i.e., in states that have more aggressive accountability policy structures). For example, Ryan et al. (2017) looked at whether accountability policies in three states differentially influenced teacher attrition, migration, and stress. They found that teachers in states with more aggressive accountability systems (e.g., teachers could be fired based on test scores as a greater proportion of their evaluation is based on

test scores) experienced higher rates of attrition, burnout, and stress (see also von der Embse, 2016). When it comes to students, one gauge has to do with how aggressively schools are shut down in the face of chronic failure, with some states more aggressively pursuing this option than others (Nichols, Berliner, & Glass, 2006). The effects of school closure disproportionately impact high poverty schools serving mostly minority student populations located primarily in urban settings. What we know is that although the academic effects on students who transition to other schools is mixed (and relatively under researched, e.g., de la Torre & Gwynne, 2009; Engberg, Gill, Zamarro, & Zimmer, 2012; Sunderman & Payne, 2009), the social, emotional, and psychological consequences to students is primarily negative (e.g., Ewing, 2018; Kirshner, Gaertner, & Pozzoboni, 2010; Kirshner & Pozzoboni, 2011).

Most of the research on high-stakes testing accountability has looked at its effect on student achievement (measured by NAEP). After all, the goal of NCLB and the use of high-stakes testing was to increase student achievement and to decrease the gap between white and minority student performance. However, an overwhelming amount of evidence suggests that high-stakes testing does not increase student learning (Amrein & Berliner, 2002a, b; Bishop, Mane, Bishop, & Moriarty, 2001; Braun, 2004; Grodsky, Warren, & Kalogrides, 2009; Rosenshine, 2003; Braun, Chapman, & Vezzu, 2010; Nichols, Glass, & Berliner, 2006; 2012). When disaggregated by grade and subject area, we learn that high-stakes testing does not increase learning in eighth-grade math, might decrease learning in fourth and eighth-grade reading, and might have a moderately positive influence on fourth-grade math (Braun, 2004; Nichols et al., 2006; 2012, Dee & Jacob, 2011). Importantly, there is also little to no evidence that high-stakes testing has decreased the achievement gap (Braun, Wang, Jenkins & Weinbaum, 2006; Reardon, 2011; Timar & Maxwell-Jolly, 2012), and it has negatively impacted student

graduation rates (Holme, Richards, Jimerson, & Cohen, 2010; Marchant & Paulson, 2005; Reardon, Arshan, Atteberry, & Kurlaender, 2008; Reardon, Atteberry, Arshan, & Kurlaender, 2009), especially for minority populations (Orfield, Losen, Wald, & Swanson, 2004; Heubert & Hauser, 1999; Valenzuela, 2005; Vasquez-Heilig & Darling-Hammond, 2008). Although general academic trends were positive before NCLB and continue to increase over time in general, studies that look at the connection specifically between high-stakes testing policies and student outcomes reveal there is no direct connection with some evidence that in some contexts and with some students, greater pressures of high-stakes testing are actually related to decreases in student achievement. High-stakes testing accountability reform has not improved student learning over time (i.e., any changes in NAEP cannot be explained by these policies) or helped to create conditions that lead to positive conditions for student learning or motivation.

Classrooms and Instruction

We have come to learn a great deal about the effects of pervasive test-based pressures that have fundamentally altered (in mostly negative ways) the way we educate our students (Berliner, 2009; Ravitch, 2011). A growing literature suggests that pervasive pressures to pass standardized tests has led to a narrower/reduced curriculum, watered down subject areas, pressured teachers to relate to their students as test scores instead of as learners, and has created conditions making cheating, manipulation, and gaming much more likely (Berliner, 2010; Booher-Jennings, 2005; Jones, Jones, & Hargrove, 2003; Kennedy, 2005; Nichols & Berliner, 2007; Orfield, & Kornhaber, 2001; Ryan, 2004). Research also suggests that these negative consequences disproportionately impact poorer students, students of color, students for whom English is a second language, and students with disabilities (Nichols & Castro-Villarreal, 2016; Nichols & Valenzuela, 2013). For example, at-risk students (students who live in poverty, who

are from minority populations, for whom English is a Second Language, or who are identified for special education services) are even more likely to be retained, drop out of school, pursue technical or vocational tracks (which is problematic when the only option), and experience lower academic expectations than students not considered at-risk under high-stakes testing (Figlio & Getzler, 2006; Marchant & Paulson, 2005; Orfield, Losen, Wald, & Swanson, 2004; Vasquez-Heilig, 2011; Vasquez Heilig & Darling-Hammond, 2008).

Another problematic effect of high-stakes testing reform in classrooms is the shift in what is taught. Data suggest that when teachers feel pressure to get students to pass a test, they change what they teach (curriculum and content) and how they teach. We know for example that under pressure, teachers will focus more on content areas, skills, and outcomes that are represented on the test and will ignore those areas that are not on the test (Nichols & Berliner, 2007; Perlstein, 2007; Shepard, 1990). For example, surveys with teachers reveal clearly the pressure to prepare students to perform on tests change what they do:

We don't take as many field trips. We don't do community outreach like we used to, like visiting the nursing home or cleaning up the park because we had adopted a park and that was our job, to keep it clean. Well, we don't have time for that any more. We only teach to the test, even at second grade, and have stopped teaching science and social studies...Our second-graders have no recess except for 20 minutes at lunch. (Taylor et al. 2003, pp. 30-31)

In another study, a teacher in Florida said, "our total curriculum is focused on reading, writing, and math. There is no extra time for students to study the arts or have physical education, science, or social studies. Our curriculum is very unbalanced" (Jones & Egley 2004). There have

emerged a seemingly limitless supply of teacher anecdotes revealing this trend (Nichols & Berliner, 2007; Perlstein, 2007; Ravitch, 2011)

We also know teacher expectations (Good & Lavigne, 2017) and how teachers treat students are impacted as well. For example, a highly cited paper revealed practices where teachers differentially treated students according to their performance on tests (Bohrer-Jennings, 2005). Students who were certain to pass and those who were certain to fail were ignored whereas those just on the cusp received greater instructional attention. Evidence suggests teachers' differential treatment occurs in a variety of ways including as it relates to disciplinary practices (Figlio, 2005), special education labeling and identification (Figlio & Getzler, 2006; Pazez, Vasquez-Heilig, Cole & Sumbera, 2015), and how students' academic and social conduct is handled (Nichols & Berliner, 2007).

Student Motivation

Student motivation is critical to student achievement. Students who are interested, engaged, inspired, and supported in their learning are much more likely to stay in school, persist on tasks, and perform well academically (Corno & Anderman, 2016). Decades of research have provided powerful clues regarding the practices, contexts, and dispositions associated with positive, adaptive student motivation. For example, students who feel supported, connected, autonomous, and successful are much more likely to engage and persist in their schooling (Boekaerts, Pintrich, & Zeidner, 2000; Deci & Ryan, 1985; 2000; Goodenow, 1993; Osterman, 2000). By contrast, students who don't feel they belong, who feel controlled, and who suffer chronic failure are more likely to give up (e.g., Finn, 1989). We also know that when students have opportunities to see themselves reflected in their learning experiences (González, Moll & Amanti, 2009) or when there are ample opportunities for students to explore their academic

interests (Brophy, 2008; Hidi & Harackiewicz, 2000) or when they are supported in the quest to discover their personal strengths and weaknesses (Eccles, 2009; McCaslin, 2009), students are more likely to be motivated and successful.

We see motivation as a complex system comprised of numerous personal elements (e.g., beliefs, values, needs, goals, and emotions) that are interdependent with external contextual factors including, but not limited to, interactions with others (e.g., students and teachers), culture, and the learning environment, all of which ebb and flow with one-another in a non-linear, non-deterministic, emergent manner (Kaplan & Patrick, 2016). Student motivation (and academic success) is partly the result of how well (or poorly) teachers and the classroom contexts they support, influence these various motivational components (McCaslin, 2009). In this way, classroom environments, educational reforms, and educational policies must target, affect, and effect each component of the constellation as each element will influence the other.

We also know that motivational classrooms, are ones that tend to students' needs and their social, emotional, and cognitive beliefs and experiences (Ainley, 2006; Pekrun, Goetz, Titz, & Perry, 2002). A positively motivating classroom affords students the opportunity to engage with tasks they perceive to be meaningful and valuable as their perception of meaning and value for academic exercises will inform their level of engagement (Kaplan, Lichtinger, & Gorodetsky, 2009). A positive classroom environment would foster interest and prompt students' desire to learn (Velayutham, Aldridge, & Afari, 2013). The classroom would be facilitated by a teacher who not only communicates with parents outside of the classroom, but who fosters a mastery-oriented approach (Patrick, Kaplan, & Ryan, 2011) to learning while supporting students' competency, autonomy, and relatedness needs (Deci & Ryan, 2000). In short, if students' competence is fostered, if they are able to act autonomously, if they see interest in the task-at-

hand, and if the work they do brings about a sense of belonging, then they are likely to be motivated to positively engage and will learn, develop, and succeed academically (Deci & Ryan, 2000).

Importantly, in spite of all we know about motivation and its importance to learning, development, and educational outcomes under “normal” conditions (e.g., Ryan, 2012; Wentzel & Wigfield, 2009), there are a paucity of studies that directly examine the effect of high-stakes testing reform has on students’ motivation and their educational attainment (Hennessey, 2015; Usher & Kober, 2012). However, theories and evidence to date provide clues regarding how well (or poorly) current reform to education influences (or impedes) student motivation (Deci & Ryan, 2016). For example, Markowitz (2018) conducted an exploratory cross-sectional comparative interrupted time-series analysis of the meta-construct *school engagement* similar to previous studies (see, for example, Dee & Jacob, 2011; Lee, 2006; & Wong, Cook, & Steiner, 2009, 2015). Data for Markowitz’s (2018) study were taken from the Maternal and Child Supplement to the National Longitudinal Survey of Youth and compared public and private schools, states with higher-standards versus lower-standards regarding their implementation of NCLB, and states with existing accountability policies prior to NCLB versus states without. Results indicate no significant change between public and private schools, an ultimate negative significant effect on student engagement for the high-standards versus low-standards comparison, and a significant decrease in engagement for students in schools/states with existing accountability reforms proportional to schools/states in which NCLB was the first policy aimed at accountability. Importantly, although engagement increased initially, over time, engagement levels dropped over the long run. Despite the study’s limitations (e.g., the sample is not nationally representative), the results of the study indicate that educational reform policies that

rely on high-stakes testing practices erodes students' engagement in school, and consequently, academic achievement.

Clues regarding why this may be the case can be found in what we know about how high-stakes testing changes curriculum and instruction (Berliner, 2010). A watered-down curriculum that focuses on preparing students for taking tests violates what we know about a positively motivating learning environment. High-stakes testing stokes performance-avoidance in students as they may experience increased anxiety and fear and even students who would otherwise succeed academically may experience decreased motivation as they become bored by simply studying and memorizing (Amrein & Berliner, 2003; Nichols & Berliner, 2008; Usher & Kober, 2012). In short, a reform system that emphasizes tests as the primary and most important reason for learning undermines healthy, adaptive, and long-lasting motivational processes.

Potential for Policy (or Practice)

As a modern reform approach, high-stakes testing accountability specifies very clearly our societal views of how it is we should educate (get students to pass a test) as well as what we think the purpose of education is in the first place (to ensure students can pass a test). In contrast to the evolving goals of the past century where at times education was about preparing students to have skills for the work place, and at times the goal was to prepare students for advanced learning (e.g., Kliebard, 2002; Ravitch, 2011), the goals and purposes of public education in the 21st century are largely to get students to pass high stakes standardized tests.

As long as high-stakes testing reform exists, administrators, teachers, and educational specialists must continue to educate themselves on the nature of the pressure they face and work against temptations to alter negatively curriculum, instruction, and the ways they relate to their students. Teachers must be better educated on the potential consequences of test-based pressures

in their practice and work to offset these pressures to support their students. For example, teachers might guard against the temptation to rely on feedback that overly exaggerates the test's importance. Although the importance of the test may be great in deciding whether a teacher keeps his or her job, or whether it will decide whether a student is retained or passed to the next grade level, the temptation to convey said importance to students must be resisted. Messages that convey to students external reasons for learning are counterproductive to their motivation and subsequent achievement (Deci & Ryan, 2000). Thus, practitioners must find ways to navigate these pressures without sending it back to students.

State, regional, and local policymakers (and administrators) can offset the negative effects of high-stakes testing with policies that minimize their importance. For example, one approach would be to adopt teacher evaluation systems that include more than just student test scores. It is important when evaluating teacher's work that there are multiple measures included in the system. For example, administrators could use reliable and meaningful observation systems, they could include other student-level outcomes such as grades and surveys and measures of school climate, and they could provide ongoing mentorship and professional development opportunities to all teachers (Lavigne & Good, 2014). Furthermore, researchers should disseminate their work underscoring the detrimental effects of high-stakes testing to educate the public on their potential harm.

Although politicians continue to embrace high-stakes testing as a central education reform approach, a growing number of parents, politicians, and activists have been actively fighting against it (e.g. Strauss, 2016). Parents across the country are opting out of testing and activists are rising up against the practice. Policymakers should listen to these constituencies and seek alternative methods for improving educational outcomes for students. The core of this issue

harkens back to the beginning of this chapter and questions revolving around what is the purpose of public education? Rather than producing test scores, policymakers should consult teachers, parents, and educational experts and work to redefine learning outcomes for 21st century students.

Needed Research

We need more research that examines how high-stakes testing reform practices impact student motivation. For example, how do high and low-pressure contexts differently impact student engagement? Although we have clues about motivational outcomes in test-based contexts, we really don't know what teacher practices are specifically tied to what types of motivational outcomes. Further, we need more research understanding the cumulative effects of test-based experiences over time and throughout K-12 schooling. Are there different motivational trajectories of high versus low-performing students or of students attending schools with different contextual features (over resourced, under resourced)? We need more longitudinal analysis of motivational development and evolution in high-stakes testing contexts.

We also need to better understand how teachers navigate policy pressures. On the one hand, we know that school policies inform teachers' actions (Kyriakides, Creemers, Antoniou, Demetriou, & Charalambous, 2015). On the other, we also know that teachers act and perceive policy in relation to their values, beliefs, and prior knowledge (Bertrand & Marsh, 2015). It is unclear how any one teacher will interpret and act concerning high-stakes testing policies in light of the policy context in which they work and their perceptions of those policies. In what ways, if any, might teachers' practices change in light of how they navigate these spaces?

Research must move away from variable-centered, quantitative analyses and include inquiry on the lived-experiences of students and teachers as they navigate continually evolving

educational reforms like high-stakes testing. How might the meaning students and teachers make of contemporary educational reforms influence educational experiences, outcomes, and practices in the classroom? What can we learn from students, teachers, and educational specialists themselves and how might their experiences inform educational reforms? How might other social-cultural facets of their lives influence their educational experiences?

Lastly, we also need more research to underscore what types of interventions are effective for offsetting the pressures of tests when the stakes are high. More research is needed to understand how teachers manage high stakes pressures. For example, we don't know much about teachers' perceptions of these pressures or how these views develop and unfold over time. Are there differences between novice and veteran teachers and how they handle these types of contexts? High-stakes testing is not going to completely disappear any time soon. We must better understand the ways in which teachers and students independently and collectively navigate and are transformed by reforms that heavily rely on test scores as the primary indicator of whether teachers and their students are successful.

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Wong, M., Cook, T. D., & Steiner, P. M. (2009). *No Child Left Behind: An interim evaluation of its effects on learning using two interrupted time series each with its own non-equivalent comparison series* (Working Paper 09-11). Evanston, IL: Institute for Policy Research.

School Reform Policies and the K-12 Classroom: Implications for Teaching, Learning, and Motivation. Chapter. Full-text available. In this entry, we discuss the nature of educational reform over time, focusing on the reform efforts of recent decades including the No Child Left Behind Act of 2002. We discuss what we believe are the effects of these reforms on classroom instruction, teacher-student interactions, and student learning. We conclude with recommendations for policy and future research. View. Show abstract. Students may even experience punishment for displaying creativity in the classroom (Guncer & Oral, 1993). re. K-12 Teaching and Learning. Coalition for Psychology in Schools and Education. Contributing Authors Joan Lucariello, PhD (Chair) Sandra Graham, PhD Bonnie Nastasi, PhD Carol Dwyer, PhD Russ Skiba, PhD Jonathan Plucker, PhD Mary Pitoniak, PhD Mary Brabeck, PhD Darlene DeMarie, PhD Steven Pritzker, PhD. APA Staff Liaison Rena Subotnik, PhD Geesoo Maie Lee. They do not constitute APA policy nor commit APA to the activities described therein. This particular report originated with the Coalition for Psychology in Schools and Education, an APA-sponsored group of psychologists representing APA divisions and affiliated groups. ii. Contents. Psychological science has much to contribute to enhancing teaching and learning in the classroom. In *Revolutionizing K-12 Blended Learning through the i²Flex Classroom Model*, ed. Maria D. Avgerinou and Stefanos P. Gialamas, 38-51 (2016), accessed July 05, 2019. doi:10.4018/978-1-5225-0267-8.ch004. Export Reference. Available In. *Advances in Early Childhood and K-12 Education*. InfoSci-Books. InfoSci-Education. Library Science, Information Studies, and Education. InfoSci-Select. Many of these new technologies are available through the Internet, which is an important resource for learning and instruction at all levels and in nearly all contexts. Among the changes that are occurring is the possibility of integrating Internet resources into curricula, which are often linked to mandated standards in schools in the USA and other countries.