Examining Challenges with Measuring the Effects of Federal Education Mandates

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Abstract

The reauthorization of the Elementary and Secondary Education Act in 2001, commonly referred to as No Child Left Behind (NCLB) resulted in a wave of mandated changes to school accountability and assessment practices. After the implementation of NCLB mandates education practitioners logically posed the question, what has been the effect of NCLB on education systems? Although the question seems straightforward, the complexity of the United States education system, the nuanced view of student achievement, and varying definitions of proficiency have produced mixed accounts of exactly how NCLB has affected education in the United States. This research brief outlines the history of No Child Left Behind (NCLB) and highlights the complexity of developing a concrete answer to the question, what have been the effects of federal mandates on education since 1999.
Research Topic

This research brief explores the history and complexities of measuring the effects of federal mandates on education.

Introduction

History

“We must draw on both history and philosophy, which is to say that we must deal with the subject of educational theory as both historians and curriculum theorists” (Null, 2008, as cited in Kessinger, 2011, p. 264)

The federal government's role in American education has increased steadily in the past 30 years. This increased involvement by the federal government has been a result of more federal dollars being directed towards schools. Those dollars come with expectations and federal accountability mandates. This increase in federal involvement has also increased testing that happens in public schools and been viewed as a loss of local control and local accountability (Allington, 2003). Federalization takes decisions about teaching and learning and moves them more towards being in the hands of bureaucrats (Allington, 2003). The 1983 publication of A Nation at Risk is seen as the seminal reform report and pushed forward the notion that the United States education system was in disarray and in need of reform in order to properly educate a new generation of citizenry. Allington (2003) cites Chester Finn’s 1991 statement as the need for a shift away from localization towards federalization,

The shortcomings of American education don’t stem from malevolence...they arise from the maintenance of archaic practice...and cumbersome governance arrangements (such as entrusting decisions to fifteen thousand local school boards at a time when the entire nation is imperiled)
The Elementary and Secondary Education Act (ESEA) of 1965 is seen as the beginning of federal legislative policy having a large impact on the United State educational system. ESEA changed federal aid to education from general aid to the more specific categorical aid. A result of the changes to federal aid was linking aid to other national policy issues such as poverty, defense, and economic growth (Kessinger, 2011). ESEA increased funds for public schools, and was intended to give disadvantaged and low-achieving students greater opportunities. Naturally, the effects on student achievement from these reforms were questioned, one issue was how to compare data over time in a valid and reliable means that would be representative of all of the nation’s data (Fuller, Wright, Gesicki, & Kang, 2007). In response to this quandary, the National Assessment of Educational Progress (NAEP) was formalized by U.S Congress in 1969. The NAEP is a means to monitor the “knowledge, skills, and performance of the nation’s children and youth” (Kessinger, 2011, p. 269). Into the 1980’s education reform efforts were not seen as successful in increasing student achievement and A Nation at Risk further stoked the flames of perceived major changes needed in the nation’s education system. Both George H.W. Bush and Bill Clinton pushed plans, America 2000 and Goals 2000 respectively, that were built up on the premise of America's school children getting back to basics with explicit academic standards to increase student achievement (Finn & Hess, 2004). The national standards movement of the 1980’s and 1990’s led to the increased development of content standards and statewide testing although student achievement did not immediately increase as well (Terry, 2010).

ESEA of 1965 and the 2002 reauthorization, also known as No Child Left Behind (NCLB), are seen as bookends in terms of education policy. ESEA focused on funding and content standards and NCLB signaled a policy shift to measuring output, specifically student performance on state tests. NCLB legislation made a stronger tie between federal funding and state testing, included public reporting mandates, and specified harsh consequences for not improving or reaching benchmarks (Seashore &
Robinson, 2012). The 1,100 page NCLB act was passed by congress in 2001. President Bush signed the act into law and it has been termed one of the most ambitious and impactful legislation of this generation. This act is seen as the shifting point away from local control towards federalization of public education. The goals for NCLB were to increase student achievement while narrowing learning gaps with an ultimate goal of 100% student proficiency by the year 2004 (Caillier, 2007; Finn & Hess, 2004).

The reforms seen in the early 2000’s as a result of NCLB were not brand new but rather modeled after existing accountability systems that many states had already began in the 1990’s (Dec & Jacob, 2010). The push for greater accountability and standards based reform was also in full-swing by the time NCLB was adopted in 2002. A 1998 United States Department of Education (DOE) poll indicates 87% of respondents believe students should meet school-established standards before being allowed to graduate from high school (Berger, 2000).

Accountability mandates being a central component of NCLB, required a system by which states could be held accountable for student achievement and student progress towards the 100% proficiency goal. The answer to the accountability mandate was annual testing for all students in grades three through eight in reading and math and that adequate yearly progress (AYP) be calculated (Finn & Hess, 2004). States were forced to utilize accountability systems using standardized tests or face the loss of Title 1 funds. A positive effect of the NCLB is that Title 1 program funds did increase substantially between 2000 and 2006 from $8.5 billion to $13.6 billion (Davidson, Reback, Rockoff, & Schwartz, 2015).

Summary of Findings

Implementation of Mandates

A disconnect exists between legislative policy intents and the actual impact on P-12 education practices (Terry, 2010). Accountability that mandates a specific process, program or method and does not
offer autonomy creates a sense of someone else’s ideas or solutions and a lack of shared accountability for the results (Allington, 2003).

“Planning and changing are fundamentally different processes” (Terry, 2010, p. 81). This simple statement captures the difficulty with federal mandates being translated into local practice. Terry refers to Darling-Hammonds work from 1990, policymakers create the plans but those plans become reshaped during practice. The school administrator plays a critical role in implementing any changes in that the understanding of a policy by a leader is what directly impacts implementation (Seashore & Robinson, 2012). The more fully a leader sees an external accountability policy as aligning with school’s policies and aligning with the leader’s own values and preferences, the more likely the external policy will have a positive impact on the school (Seashore & Robinson, 2012).

One model that is proposed to explain how districts implement these external legislative mandates is called compliance, commitment, and capability model (CCCM). This model explains that district implementation of the external mandates is based on how well the mandates relate to a district’s adherence to compliance, commitment to change, and have a capability for implementing the change (Terry, 2010). Another study done a decade earlier, Hasazi, Furney, and Destefano (1999), also point to very similar factors in determining the level of implementation of a mandate at the district level. Hasazi et al. found that mandate implementation depended upon the factors of incorporation of system wide strategies, substantial interagency collaboration, sustained professional development, strong visionary leadership, coordination of reform policies, and connection among local and federal initiatives. Seashore and Robinson (2012) and Terry (2010) both support Hasazi et al., (1999) in suggesting holistic integration is most effective for implementing mandates.

In response to NCLB mandates, districts were faced with the challenge of integrating the ambitious goals into the realities of their own district’s policies and procedures. The issue of compliance
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can take over the deeper work of meaningful change when administrators are faced with challenging mandates (Terry, 2010). Seashore and Robinson (2012) stress the importance of the sensemaking stage in external policy mandate implementation. This is where the administrators understanding of the policy is complete enough that the knowledge can then be a springboard into action within their specific school or context. NCLB implementation had the added challenge of negative media attention and public opinion, although Seashore and Robinson (2012) found that administrators had fairly positive perceptions of state policies.

Beyond compliance, commitment, and capability, as seen in the CCCM framework the administrator’s role in implementation was found to hinge on the degree to which there was coherence between the policy and the administrator’s leadership values and agenda (Seashore & Robinson, 2012). The administrator has the unique position of knowing specifically the context into which the federal or state policies will be implemented at their school. The administrator then has a responsibility to synthesize the policy mandates with the realities of their own school in order to implement the external mandate more effectively. This makes the role of the building administrator critical in any implementation process.

Collecting Data on Student Achievement

Interpretation challenges. Analysis of student achievement data is one of the key difficulties in answering the question of how has student achievement been affected by federal mandates. Some of the difficulties are making a clear analysis of student achievement, researchers have cited state and national content standard differences, lack of a consistent measure at the state level of proficiency, no longitudinal assessment data available from all states, and additional state and local efforts towards improvement that make establishing a direct link from student achievement changes to NCLB difficult as common challenges (Terry, 2010).
Dee and Jacob (2010) point out another roadblock to researching the question of student achievement related to NCLB, since all public school students are under the mandates of NCLB there is not a control group from which to isolate NCLB’s effects from other forces. The suggestion for getting around this roadblock is to compare data from states that were already implementing accountability standards similar to NCLB to those that did not have that type of accountability policies before NCLB was mandated. Mintrop and Sunderman (2009) add that NCLB changed many states accountability systems to be much more exhaustive and that the data required to be published on student achievement and teacher quality is more disaggregated than the previous state accountability systems. Six years later, Husband and Hunt (2015) are still asking the same question, how has NCLB affected student achievement? The majority of descriptions of the effects of NCLB are negative. However most studies are done on related areas such as standardized testing and school reform with the results being connected to NCLB as conceptual arguments.

Analysis challenges. In addition to the difficulty with studying NCLB effects on student achievement in research studies due to a clear lack of comparison group, analyzing NCLB and student achievement data is difficult, affected to state level decisions, and open to interpretation in many instances. A simplistic answer to how student achievement was affected by the federal mandate of NCLB is that student test scores on state assessments continue to rise as summarized by Mintrop and Sunderman (2009).

An increase in achievement on statewide tests would logically translate into expected higher levels of achievement on the NAEP as well, which is the only national level metric available. Mintrop and Sunderman (2009), indicated that this was not the case and gains on NAEP were not at the same level as the gains at the state level of testing. This leads to an important point for educators to consider when examining student achievement data and when making decisions based on standardized test data, is it the proficiency level, or is student performance actually changing? As NCLB mandated sanctions against
schools that did not make AYP based on state assessment proficiency data, this incentivized states to not raise state proficiency standards at the risk of more students being considered not proficient if the standards were raised (Petersen & Ackerman, 2015).

Adding to the confusion and difficulty in analyzing student achievement growth is that NCLB mandated the same sanctions on a district if only one subgroup of students failed to make AYP or if multiple groups from the same school failed to make AYP. The achievement levels of these subgroups can also be statistically adjusted using confidence intervals and the safe harbor technique to further make determinations of student achievement difficult. Confidence intervals are used to account for subgroups which have a small number of students and safe-harbor is used when schools show a large amount of growth but still did not meet proficiency target levels (Davidson et al., 2015).

An example of how a reliance on state tests and arbitrary proficiency levels at the state level made measuring NCLB student achievement gains or losses nationwide difficult is from Caillier in 2007. Caillier (2007) surmise that only Wyoming and Nebraska were on track to meet the NCLB goal of 100% proficiency by 2014. This is based on Nebraska and Wyoming having the highest levels of student proficiency on state tests. California is shown to have the lowest percentage of students proficient and therefore least likely to meet the NCLB target. The backstory to these claims about Nebraska and California is that Nebraska’s statewide accountability system was based on locally developed assessments at that time with standardization of proficiency levels very difficult as juxtaposed with California’s statewide assessment system with rigorously defined proficiency levels close to that of the NAEP (Mintrop & Sunderman, 2009).

Utilizing a growth model for student achievement is proposed as one way to more adequately measure overall student achievement rather than simply using a proficiency model. Growth models are very complicated to measure and the results can be so nuanced they are difficult to interpret by teachers,
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policymakers, and parents (Lauen & Gaddis, 2016). Growth models are also subject to the same statistical manipulation as a basic proficiency model so the data may still be inadequate to definitively make decisions upon.

Understanding how student achievement data is calculated and analyzed is a must when making decisions based on the given data. This point is highlighted by Murray (2014) in summarizing many studies which found school superintendents, cite use of data, as the most important strategy in improving student achievement. The need for professional development, opportunities to collaborate with colleagues, and ongoing practice with data interpretation is needed to help educators fully use data to make appropriate decisions about curriculum and instruction (Murray, 2014).

Outcomes of Mandate Implementation

Effects on student achievement. The question persists as to how NCLB has affected student achievement. Dee and Jacob (2010) report that a study from the Center on Education Policy, achievement scores in both reading and math have increased on state assessments and scores have increased similarly but to a smaller degree on the NAEP. The report was specific in stressing that the achievement gains could not necessarily be attributable to NCLB but nonetheless math achievement did increase for 4th and 8th graders. In addition when looking at NAEP data from 4th graders specifically, student achievement growth has slowed since the implementation of NCLB mandates. Additionally student achievement data is reported half a decade later with Breiner (2015) stating that the high-stakes testing movement prompted by NCLB actually slowed math achievement progress as measured by the NAEP. Narrowing the achievement gap was one of the goals of NCLB. The achievement gap which did show narrowing during the 1990’s did not continued narrowing during the NCLB era (Fuller et al., 2007).

Effects on instruction. Mintrop and Sunderman (2009) cite nine different studies showing that although school accountability systems are met with positive attitudes by policy makers, the perception of
high-stakes accountability systems by teachers and administrators is more negative. Husband and Hunt (2015) found that teachers have a negative or frustrated viewpoint of NCLB as a result of perceived loss of instructional time, professional freedom, and strict mandates. Cobb (2012) focused on new teachers who had gone through much of their own schooling under NCLB mandates and had spent their whole teaching career under the mandates. These new teachers profiled in the study were found to be more likely to want scripted curriculum and relied more heavily on practices that were dictated to them. These teachers operated under the assumption that high test scores equated with improved student learning.

NCLB mandates also generated positive effects in regards to teachers in the areas of professional development. In the era of NCLB the number of highly qualified teachers and professional development opportunities offered to teachers did increase their sense of self-efficacy in teaching reading and math (Husband & Hunt, 2015). As a precursor to NCLB, the standards movement also showed positive effects on student achievement when content standards are defined and implemented. Those standards help to systematize the expectations, accountability, and understanding of learning targets for all stakeholders (Berger, 2000).

**Effects on curriculum.** Cobb (2012) clearly states that using high stakes testing as a means to control an education system results in the curriculum being narrowed and instructional methods being limited. This narrowing of the curriculum has been shown to impact students in poverty or minority students by limiting their choices to include only a curriculum that they will need in order to pass a high-stakes tests (Erskine, 2014). Cobb (2014) found that students not at-risk, those in more affluent areas, did not see the same narrowing of the curriculum as students in high-risk populations. The high-stakes testing was focused on much less often allowing time for creativity and a more diverse curriculum.
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Implication of the Findings and Application to MOEC

Application and Implications

The Metropolitan Omaha Education Consortium (MOEC) is a model collaborative organization with membership from twelve metropolitan public school systems, educational service units, and area higher education. There are many implications of understanding the challenges associated understanding the effects of federal mandates on education. The leaders of MOEC organizations are responsible for not only public relations but also steering of policy creation and implementation.

The following quote beautifully sums up why examining the past is so important for education leaders, “sustainable development respects, protects, preserves, and renews all that is valuable from the past and learns from it in order to build a better future” (Hargreaves & Fink, 2006, p. 226). As mentioned by Dr. Mike Duhlaney (personal communication, February 2, 2017), term limits of our Nebraska legislators make memories short. The effect is that unless educators preserve and share what has happened in not only Nebraska but national education policy in the past legislators may make ill-advised legislative proposals or may not fully understand the implications of legislation. MOEC members are active politically and often are called upon to testify at the legislator or to take a stance on political issues. Using research briefs such as this one that capture components of our education systems past can be valuable for not only preserving but for better understanding and sharing education history.

The current political climate has made it more important than ever for education leaders to fully understand issues and discern appropriate and reliable data from political agendas or quick news talking points. An example is when the then nominee for U.S. Secretary of Education was unsure about growth vs. proficiency. MOEC members need to understand this information as well. This brief gives a basic outline as to why understanding those differences can be critical in understanding how mandates affect education policy and practice. As ESSA is being rolled out education leaders must have a firm grasp on
what changes are being proposed and how those will affect their organization.

This research brief outlines the complexities when examining and making judgements based on national data from federal mandates. The brief highlights the challenges with using national data that has no comparison group, such as in NCLB, because all students were mandated to fall under the requirements of NCLB leaving no control group from which to compare data. Nebraska is faced with legislation and political pressure to open the pathway for charter schools and vouchers to be made legal and viable in the state. Opponents and proponents of this issue both use national data to support their case and research briefs such as this to ensure the heads of our education organizations, including MOEC partnering organizations and beyond, understand the breadth and limits of national data.

The statistical manipulation that can be used in data analysis is something that education leaders know exists, but may not fully understand or comprehended how it can affect the presentation of data. This brief includes mentions of safe harbor and confidence intervals as just two statistical manipulation methods. Understanding the data analysis methods on a basic level will empower MOEC representatives to be able to better discuss, analyze, and interpret their own organizations data in context of a larger picture. As mentioned previously Murray (2014) summarizes multiple studies in finding that school superintendent’s cite, use data, as the most important strategy in improving student achievement.

The use of proficiency ratings and the effect on standard levels and rigor from state to state is an important take-away from this brief. To recap, under NCLB states were inadvertently incentivized to keep standard proficiency levels low in order to have a higher percentage of students meet those proficiency levels. This created a double-edged sword where low standards and low rigor were not in the best interest of children but it allowed for more students to be deemed proficient. This is important for MOEC members to note as many of them are in positions to develop policy or influence legislation. A school must be very careful when interpreting data and thoroughly analyze the data to look at whether it is
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truly student achievement that is changing or the reporting system that has changed. If the data is not correctly interpreted this can result in making changes unnecessarily or based on false assumptions. Changing standards and changing proficiency scales or rating may in turn produce data that shows an overall decrease in student achievement proficiency numbers but in the end result in higher levels of student achievement or increased rigor. The message is to look more closely at an education system rather than just bottom line numbers.

This brief touches on the effects of federal mandates on curriculum and instruction. This is a topic that could be elaborated upon to create a separate brief. The basics are that increasingly federalized education system decisions about teaching and learning are made by legislators further removed from local school districts. The brief highlights research that shows that curriculum becomes narrowed and instruction less varied as more emphasis is put on proficiency levels and meeting a certain benchmark of achievement. In schools where students are less likely to meet the benchmarks, the curriculum and instruction becomes more narrowed and opportunities for students at those schools becomes more limited. This has implications for MOEC members at all levels in terms of school districts who are examining new curriculum standards and evaluating instruction and for higher education into which those students will enroll to continue their education and as a role in developing pre-service teachers who will then go back into the public school setting.

One of the most important implications from this brief and one having a direct impact on MOEC school districts is the information on the importance of the building principal on mandate implementation. The role of principal influences the implementation of the mandate by making judgements about the mandate based on what they know about the school, existing programs or initiatives, and on their own beliefs. Understanding how building principals process and lead implementation is critical when considering building principal placement. A widely used phrase is, getting the right people in the right seats on the bus (Collins, 2001). The idea is that good leaders need to be in the right placement (seat on
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the bus) in order to be most effective. This is true when implementing policies at a school. As the research shows personal beliefs of principals can influence mandate implementation, therefore having an administrator that has personal beliefs aligned with an understanding of a particular school's needs will increase the likelihood of successful implementation.

The implications of the information from this research brief to MOEC broad in scope. Developing an understanding of history and context helps an education organization to be stronger in that it is armed with past results and an understanding of context of education policy decisions. Having a firm grasp on the nuanced and complicated world of education data will empower MOEC members to have more productive and ultimately more accurate discussions surrounding student achievement data. As the saying goes, knowledge is power, and knowing how data can be presented and what the limits of achievement data are helps to make more informed leaders. The final implication and one of the most powerful is a better understanding of the role and the influence of a building administrator in implementation of mandates. Without structures in an organization to transfer policy into practice there will be no change.
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