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Cold War in the Classroom: Effects of the Onset of the Cold War on Public Education

Amanda Pineo

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Requirements for Commonwealth Honors in History

Bridgewater State University

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Dr. Andrew Holman, Thesis Advisor
Dr. Paul Rubinson, Committee Member
Dr. Jeanne Ingle, Committee Member

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Abstract

World War II permanently changed the state of global politics, establishing the United States as a major superpower. In particular, the creation of the atomic bomb at the end of the war ushered in a new era of nuclear tension and a Cold War between the United States and Soviet Union, in which each side was pushed to marshal resources – foreign and domestic, cultural and political, at all levels – in support of its cause. The purpose of this research is to provide an analysis of the impact of the Cold War on American public primary and secondary schools, particularly focusing on changes in curriculum as a result of pressures from the Soviet Union and the influence of the federal government. In order to respond to the Soviet threat and maintain the U.S.’s status, public schools utilized their influence by instilling “American” values and conditioning children to be future contributors to society by focusing more heavily on mathematics, science, physical education, and foreign languages. By exploring primary and secondary sources, I analyze the changes in public school functions within the context of the onset of the Cold War (1947-1968). Utilizing these sources, which include federal acts, Massachusetts Board of Education reports, funding directives, and curricula, this research aims to show what specific changes were enacted by schools in order to mold pupils into ideal members of society during the Cold War. This research will contribute to existing literature on education in late twentieth-century America, which has shaped the needs and goals of education in the new millennium. My findings emphasize the deep and lasting impact that a war of such magnitude has had on society. In addition, it shows how American public schools responded to the Cold War in order to help current and future educators fully understand and utilize their influence in divisive times.

The consequence of technological progress is that man must use his mind more and his body less.

–Hyman Rickover 1958

Hyman Rickover, a World War II Navy admiral, is known as the Father of the Nuclear Navy for aiding in the development of the first nuclear-powered submarine.¹ Throughout his career, Rickover served as a strong proponent for the betterment of America’s schools, calling education the United States’ “first line of defense” in the first chapter of his book *Education and Freedom*.² Rickover was an advocate for going back to the basics of education where children were “learning by doing” rather than regurgitating textbook knowledge.³ In his opinion, the schools of the time were much too complicated to be of use.

Rickover’s speeches on education are widely quoted by historians, though Rickover’s ideas about education were not unique to him.⁴ Rickover, a highly respected man, was simply able to articulate the urgency of the push for improvements in education that was echoed across the United States. For Rickover and Americans of his generation, in the wake of Soviet advancements, the Cold War was a competition rooted in knowledge.

¹ "Hyman G. Rickover," Atomic Heritage Foundation, January 27, 1900, accessed April 23, 2018, <https://www.atomicheritage.org/profile/hyman-g-rickover>.

² Hyman G. Rickover and Edward R. Murrow, *Education and Freedom* (New York: Dutton, 1961), 15.

³ James W. Fraser, *The School in the United States: a Documentary History*. New York: McGraw-Hill, 2001, 230.

⁴ Decades earlier, in the 1930’s Soviet educational psychologist Lev Vygotsky had advocated for the type of education that Rickover supported during the Cold War. Vygotsky, too, believed that children learned best through actions rather than book learning. He said that “in play, a child is always above his average age, above his daily behavior; in play, it is as though he were a head taller than himself.” Supporting this thought, Rickover – and subsequently educators of the Cold War-era – advocated for interactive, hands-on, back-to-the-basics learning. See “Pioneers In Our Field: Lev Vygotsky – Playing to Learn” (Scholastic, 2018) by Deborah J. Leong and Elena Bodrova. <https://www.scholastic.com/teachers/articles/teaching-content/pioneers-our-field-lev-vygotsky-playing-learn/>. Thanks to Dr. Jeanne Ingle for alerting me to this reference.

The outcome of World War II dramatically changed the state of the world, establishing the United States as a major superpower for the first time in history. The war led the United States to alter its policies of intervention, creating a greater American presence worldwide, and catalyzed a great rush toward scientific advancements in the fight to win the war. In particular, the invention and use of the atomic bomb at the end of the war ushered in a new era of nuclear tension and a Cold War between the United States and Soviet Union. In order to compete with the quickly advancing Soviet Union, all parts of American society went through a shift in function, particularly the influential institution that is our public school system. The focus on schools in order to maintain America's position as a world superpower then, had to be to train children to be productive members of society in a competitive post-war world. Schools had a level of influence that could not be matched by many institutions, particularly during the most important and formative years of people's lives. Schoolchildren were believed to be at the ideal age to learn not only about common subjects — primarily math and science at the time — but also to develop vocational skills needed to participate in the vastly changing nation.

In order to respond to urgent pressure to compete with the Soviet Union, American public schools utilized their influence by instilling “American” values and conditioning children to be future contributors to society. The role of schools became to teach children how to participate in a country that could dominate the world stage. Faced with the threat of war with the Soviet Union, the United States was forced to rethink its policies, both foreign and domestic.

Of particular importance were the changes to public education policy. Since its inception, the United States has valued the rights of states, including the right to administer public schools independently of the control of the federal government. Education policy is primarily a state and

local responsibility.⁵ In peacetime and in war, the United States government has respected this right and has protected it. According to President John F. Kennedy during his 1962 Message on Education, “the control and operation of education in America must remain the responsibility of State and local governments and private institutions” and it is essential for it to remain as such in order to promote the ability of the states to serve students fully and individually based on diverse needs.⁶ However, this does not mean that the federal government denied itself a stake in the education of American youth. To Kennedy, supporting the advancement of American education was “the right – the necessity – and the responsibility – of all” and was essential for the achievement of “national objectives.”⁷ Rather than blatantly attempting to take control of public education, the federal government was forced to be creative in times of crisis. Such a situation arose at the onset of the Cold War with the Soviet Union when the federal government was forced to find a way to influence schools in order to compete with impressive Soviet advances in science. The main ways in which it could have a direct influence among government institutions were through policy change and the promise of funding.

The changes to public education outlined in this thesis mark the beginning of an emphasis on the importance of education as national defense, which first gained momentum under the Eisenhower administration. This is not to say that Eisenhower was the original advocate for an expanded federal influence in public education, but rather that the conditions had not been

⁵ States are given control over public education by the 10th Amendment to the U.S. Constitution, which states that “the powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” Because the Constitution does not state that the federal government controls education, the power is therefore given to the states.

⁶ John F. Kennedy. The White House Message on Education. Office of the White House Secretary. Washington D.C., February 5, 1962. From JFK Library, President’s Office Files.

⁷ John F. Kennedy. The White House Message on Education. February 5, 1962.

favorable enough to facilitate such a change until the launch of Sputnik in 1957.⁸ In fact, education reform had been a topic of discussion on many occasions and was merely unable to pass through Congress due to a lack of urgency for change. The history of changes to education funding in the United States are in no way limited to those outlined in this thesis; however, one may argue that the changes described here were the first meaningful steps taken by the federal government to set higher standards for public schools and to seek greater uniformity among state systems nationwide. This intervention of the federal government has remained a regular and sometimes heated topic for debate since the end of the Cold War.

The United States Government attempted to intervene in public schools through many programs established between 1965 and 2018.⁹ Even following former President Ronald Reagan's efforts to remove the federal government's influence from public schools, the push for federal funding and legislation continued.¹⁰ Of those efforts, three acts in particular are most essential for understanding the ways in which Cold War educational reform still impacts the United States today: *Improving America's Schools Act (IASA)*, *No Child Left Behind Act*

⁸ According to the U.S. Department of Education, the original Department was established in 1867 "to collect information on schools and teaching that would help the States establish effective school systems." The first federal support for schools did not come in the form of funding, but rather in the form of land grants. <https://www2.ed.gov/about/overview/fed/role.html>

⁹ Some examples of government-funded programs for the benefit of students are the *Every Student Succeeds Act*, which gives educational support to low-income individuals, and FAFSA, which gives federal loans to college and university students.

¹⁰ Ironically, despite his many efforts to lessen the federal role in the classroom – particularly through an effort to dissolve the Department of Education – Reagan's rhetoric on the subject of American education actually sparked an even greater push for federal involvement. Reagan's National Commission on Excellence in Education drew attention to the failures of American schools in *A Nation at Risk* (1983) and actually sparked a long series of changes in education to come. See, for example, Strong American Schools' "ED IN 08 UNVEILS NEW ANALYSIS AND REPORT CARD SURROUNDING 25TH ANNIVERSARY OF A NATION AT RISK."

(<https://web.archive.org/web/20080828192156/http://www.edin08.com/uploadedFiles/Issues/A%20Stagnant%20Nation.pdf>) Strong American Schools was created by the Bill & Melinda Gates Foundation and The Eli and Edythe Broad Foundation. It was launched during the 2008 election to promote education reform. <https://www.gatesfoundation.org/Media-Center/Press-Releases/2007/04/Strong-American-Schools-Campaign-Launches-to-Promote-Education-Reform-in-2008-Presidential-Election>

(*NCLB*), and *Every Student Succeeds Act (ESSA)*. All three were established within the last twenty-five years and offer a direct connection between the current day and the Cold War as extensions of the original *Elementary and Secondary Education Act (ESEA)* of 1965. Criticism of each of the acts drew attention to the controversies surrounding whether or not the federal government should be involved in public schools.

In 1994, under the Clinton administration, the *Improving America's Schools Act* was passed, reauthorizing the *Elementary and Secondary Education Act* of 1965. The act readdressed growing inequality in the education of children across the nation and reaffirmed the notion that the education of all children is a national concern. In 2001, under President George W. Bush, the *No Child Left Behind Act (NCLB)* was approved by Congress. This act expanded upon the changes introduced in *IASA*. Once again, this came at a time in the United States' history when it was in intense conflict with the outside world, leading to a need for change within our schools. In particular, *NCLB* continued the trends in education reform emphasized in the 1980's and 1990's, particularly continuing the standards-based education (SBE) reform movement as well as the outcomes-based education (OBE) reform movement that traded standardized testing for funding.¹¹ *NCLB* is an excellent example that ties the recent past with the Cold War legislation discussed in this thesis. Though received well initially, over time the *NCLB* began to face a great deal of criticism, particularly surrounding the role of the federal government in education.¹² The

¹¹ One of the most important aspects of outcomes-based education is the National Assessment of Educational Progress (NAEP), which sets the basis for a nationwide assessment of education. The NAEP assesses "subject-matter achievement, instructional experiences, and school environment for populations of students... and groups within those populations" in order to give states a way to monitor progress in specific subjects. Part of the NAEP is the National Assessment Governing Board, which develops frameworks to assess grade levels. Standardized testing contributes to this National Report Card, assessing each state's proficiency in the subject-areas tested. See the National Center for Education Statistics' NAEP Overview at <https://nces.ed.gov/nationsreportcard/about/>.

¹² One such critic is Diane Ravitch, a historian of education and an educational policy analyst. Ravitch was originally a strong supporter of *NCLB*, but in recent years has become one of its harshest critics. In her 2013 book *Reign of Error: The Hoax of the Privatization Movement and the Danger to America's Public Schools*, (New York:-Alfred A.

act was eventually seen as an overstep by the government. In 2015, *NCLB* was replaced by the *Every Student Succeeds Act* which returned more power to the states. *ESSA* act emphasizes that the role of the federal government, though existent, is still limited by the rights of states.

Today, the disagreements stemming from the federal government's role in education are frequent and many. Under the current administration, the Secretary of Education, Betsy DeVos, remains outspoken on the subject. Much like President Reagan's administration, DeVos feels that the federal government should limit its influence in public schools. In fact, DeVos has gone as far as to say that the current system of national regulations is "a closed system that relies on one-size-fits-all solutions" which have stifled the creativity and growth of American children, stopping them from "competing at the highest levels."¹³ Despite pushing against federal funding for public schools and championing private charter schools, DeVos continues to echo a common Cold War sentiment: the United States is in competition with the rest of the world.

The urgency of competition was widely felt in America during the Cold War, particularly as a result of the Sputnik Crisis. The literature surrounding Cold War-era education change is plentiful, but in some ways spotty due to a disproportionate focus on the satellite and its real and immediate military implications. Though the Sputnik crisis is essential in understanding why education change occurred, it cannot fully explain what and how things changed. This thesis

Knopf Publishing, 2013) Ravitch argues that American schools are in danger due to "persistent, orchestrated attacks on them and their teachers and principals." Rather than supporting the nation's schools as intended, *NCLB* used standardized testing to "hold schools 'accountable' for failure to produce" somewhat unrealistic results. Each time that a school did not meet the standards, it would be "at risk of having its staff fired or having the school closed," possibly being taken over by a private entity. Ravitch criticizes the abuse of standardized testing results. While the *NCLB* was intended to use those scores to identify schools that needed help to improve, the scores were used instead as a justification of a governmental overreach into the realm of education. See Chapter 2 of Ravitch's *Reign of Error*.

¹³ Betsy DeVos, "Keynote" (American Federation for Children's National Policy Summit, Indianapolis, May 22, 2017). <https://www.youtube.com/watch?v=2VlryRV8jKA>

aims to begin to fill in those gaps through discussion of policy changes at the onset of the war, demonstrating not only what caused the shift, but what resulted and why it is still significant today.¹⁴ Cold War tensions changed the way that public schools were viewed, turning them into a force for national defense, deepening the connection between the federal government and the classroom through changes in education policy and curricula.

The Road toward Change: The Eisenhower Administration

On August 29, 1949 the Soviet Union successfully detonated Joe-1, its first atomic bomb, matching the great achievement that the United States had made four years prior.¹⁵ After the detonations of atomic weapons in Hiroshima and Nagasaki at the end of World War II, the U.S. understood the devastation that such a weapon could cause. One bomb of even the same magnitude could cause utter annihilation to any major city. With that in mind, now that the Soviets had access to weapons of mass destruction, United States' leaders would feel pressured to combat their technological advancements by educating their youth to be the scientists and leaders of the next generation. However, research shows that no significant change to education policy occurred for almost a decade. Although education has been an American value – at least since Thomas Jefferson's time, as he believed education to be necessary for the functioning of democracy – the federal government did not dare overstep its bounds or impose upon the rights

¹⁴ Some policy changes discussed in this thesis include those that resulted after the passing of the *National Defense Education Act* (1958) and the *Elementary and Secondary Education Act* (1965).

¹⁵ "Soviet Atomic Program - 1946," Atomic Heritage Foundation. <https://www.atomicheritage.org/history/soviet-atomic-program-1946>.

of states to educate their youth as they saw fit.¹⁶ The increased federal role in education truly began under the Eisenhower administration at a time of national crisis.

On October 4, 1957, the Soviet Union launched the first manmade satellite into Earth's orbit. It was on that day that the trajectory of American education was permanently changed. Under the Eisenhower administration began a new era in which the federal government offered greater support to public schools in an effort to compete with the Soviets. The Eisenhower administration's greatest achievement on this front was the passing of the *National Defense Education Act (NDEA)* after years of related education policy being halted by Congress.¹⁷

Sputnik's Role

The Cold War is a topic that has attracted a tremendous amount of attention from American historians who see this as a critical turning point in the history of the United States.¹⁸ Within the existing literature on America's Cold War, scholars who examine education reform have focused heavily on one event in particular: the Sputnik crisis.¹⁹ Sputnik was, in many ways, the first major catalyst that drove the United States government to make significant changes in education policy.

¹⁶ According to Jefferson, "if a nation expects to be ignorant and free, in a state of civilization, it expects what never was and never will be." Such a poignant quote speaks to Jefferson's belief that education is necessary for a healthy democracy. This quote can be found in an 1816 letter from Jefferson to Colonel Charles Yancey.

¹⁷ Prior to the launch of Sputnik, a majority of the Eisenhower administration's involvement in education centered on desegregation of schools following the *Brown v. the Board of Education* ruling.

¹⁸ See *We Now Know: Rethinking Cold War History* (Oxford: Clarendon Press, 1997) by John Lewis Gaddis and *Redefining Science: Scientists, the National Security State, and Nuclear Weapons in Cold War America (Culture, Politics, and the Cold War)* (Amherst, MA: University of Massachusetts Press, 2016) by Paul Rubinson.

¹⁹ See *The School in the United States: A Documentary History* (New York: McGraw-Hill, 2001) by James W. Fraser, *Brainpower for the Cold War: the Sputnik Crisis and National Defense Education Act of 1958* (Westport, CT: Greenwood Press, 1981) by Barbara Barksdale Clowse, *Congress in the Classroom: From the Cold War to "No Child Left Behind"* (University Park: Pennsylvania State University Press, 2007) by Lee W. Anderson, and *Education and the Cold War: The Battle for the American School* (New York: Palgrave Macmillan, 2011) by Andrew Hartman.

The launch of Sputnik was nothing short of a shock for the United States. The Russian satellite launched on October 4, 1957 and the news of its launch sowed fear among Americans.²⁰ Though it was clear that the Soviets were catching up technologically following the detonation of their first atomic bomb, most Americans were still living under the assumption that the U.S. was still very much ahead in a worldwide arms race. As it prepared to launch its own satellite, the U.S. was completely shaken by the launch of a Russian satellite which was much larger in scale than any American scientists had intended, weighing over six times as much as the U.S. satellite, Explorer 1.²¹ Sputnik was sizeable at 58 inches in diameter and close to two hundred pounds. As this was not the first challenge faced by the Eisenhower administration, the Sputnik crisis created yet another opportunity for criticism. The Democratic Party was quick to respond to the threat. One politician in particular, Senator Henry Jackson of Washington, called the launch of Sputnik a “devastating blow,” stating that the Eisenhower administration should “proclaim “a week of shame and danger” in order to fully describe the horror and embarrassment that the United States should feel.²²

The fear of this Russian advance was felt by many, all across the nation. Americans understandably felt both panic and sadness as the nation’s status as a superpower threatened to slip away. Their panic, though already justified, was further intensified in many cases by an “eerie pinging”²³ which could be heard via radio signals from the Sputnik satellite.²⁴ The United

²⁰ NASA. Accessed April 3, 2018. <https://history.nasa.gov/sputnik/>.

²¹ NASA. <https://history.nasa.gov/sputnik/>. and https://www.nasa.gov/mission_pages/explorer/explorer-overview.html

²² Barbara Barksdale Clowse, *Brainpower for the Cold War: The Sputnik Crisis and National Defense Education Act of 1958* (Westport, CT: Greenwood Press, 1981), 8.

²³ According to the National Space Science Data Coordinated Archive, the pinging only lasted for a short time because Sputnik’s battery died within 3 weeks of entering Earth’s orbit. This is information that would have been unknown to the American public at the time. As a result, Sputnik still remained an ominous potential threat in the minds of Americans.

²⁴ Clowse, *Brainpower for the Cold War*, 7.

States was left unsure of the implications of Sputnik or its purpose. Many began to question America's strength as the country suffered such a "scientific and technological defeat at the hands of the Communists."²⁵ In response came a deep fear of some greater threat as the Russians symbolically spread Communism to space. If the Russians could send a satellite into Earth's orbit, who was to say that they could not send ballistic missiles and atomic weapons as well? Now more than ever came powerful rhetoric of competition - and survival.

With this competitive outlook came a greater push for the federal government to act. It was time to address whatever problems had led the Soviets to surpass the United States. It was not enough to be equal. The U.S. needed to remain one step ahead. In discussions with the Science Advisory Committee of the Office of Defense Mobilization,²⁶ Eisenhower was advised to act quickly in facilitating the improvement of the sciences for fear that the Russians may surpass the United States permanently if given enough time.²⁷ Though a terrifying challenge, the ensuing changes were beneficial in many ways.

Prior to the Sputnik Crisis, American schools were not valued as highly institutions with overtly national purposes. Though school reforms were attempted on many occasions, no meaningful changes to policy had been able to pass through Congress for many years prior to the satellite's launch. According to the American Council on Education (ACE), American education was treated as a "second-rate enterprise."²⁸ The panic resulting from Sputnik was exactly the

²⁵ Clowse, *Brainpower for the Cold War*, 7.

²⁶ The Office of Defense Mobilization (ODM) was established in 1950. The Science Advisory Committee (SAC) was established in 1951. Both were established by the Truman Administration. The purpose of the SAC was to advise the president on scientific matters. The committee was upgraded to the President's Science Advisory Committee by Eisenhower following the launch of Sputnik.

²⁷ Clowse, *Brainpower for the Cold War*, 11.

²⁸ Clowse, *Brainpower for the Cold War*, 12.

trigger that was needed to rectify a variety of issues faced by public schools across the nation.²⁹ Although it could not be viewed as such at the time, the American public “needed Sputnik” in order to facilitate changes in its classrooms.³⁰ For the first time, the concept of bolstering American schools as a defense measure was considered. Sputnik was able to “awaken school reforms,” redirecting the federal government’s sights on American public schools.³¹ In a time of international conflict, the nation decided to invest where it counted: in its children. Keeping its sights set firmly on the crisis at hand, the nation did not become blinded to the value of its future. The nation’s children were not to be seen merely as children. They were also the next doctors, physicists, engineers, and leaders of the free world. One of the most significant results of the Sputnik crisis was education legislation, the *National Defense Education Act (NDEA)*, passed in 1958, whose title indicates the urgency of the crisis and the view that America’s schools had the capability of shaping the future and protecting American lives and values.

National Defense Education Act (1958)

Passed by the United States Congress on September 2, 1958 under the administration of President Dwight D. Eisenhower, the *National Defense Education Act (NDEA)* was legislation that drastically changed education policy in the United States. Its passing marked the first time that the federal government was able to intervene so significantly in public schools. The *NDEA* was created as a direct response to the national crisis which ensued in the wake of the launch of Sputnik.³²

²⁹ Some issues addressed during Eisenhower’s presidency were segregation, overcrowding, and lack of funding.

³⁰ Clowse, *Brainpower for the Cold War*, 9.

³¹ James W. Fraser, *The School in the United States: a Documentary History*. New York: McGraw-Hill, 2001, 222.

³² In the 1958 Annual Report of the Massachusetts Department of Education, the launch of Sputnik is said to have “sparked a rather questioning attitude on the part of some Americans toward public education, particularly as it

The *NDEA* consisted of ten titles, each of which outlined various provisions of the act, whether it be general legal and pragmatic provisions or more specific national goals for education. According to Title I, which outlined the content and purposes of the act, the defense of the United States “depends upon the mastery of modern techniques developed from complex scientific principles” as well as “the discovery and development of new principles, new techniques, and new knowledge” in order to combat the Russians’ advances.³³ As such, the act intended to contribute to the education of the best and brightest students across the nation through the allocation of resources that may support the development of their technical skills. The United States government intended to do so through this act by providing the necessary funds for the creation of beneficial financial aid programs within higher education as well as to support public elementary and secondary school classrooms by providing the necessary funds to purchase textbooks and other related materials in the subjects of science, mathematics, foreign languages, and technology.

The provisions of the legislation outline a clear intervention of the federal government in public education. The functions of public schools fall under the jurisdiction of local and state governments, yet financial support from the federal government was not viewed as an overstep of authority in the context of this act. Title I specifically reaffirms the right of states to this responsibility, however, it notes that “to meet the present educational emergency³⁴ requires additional effort at all levels of government,” necessitating a federal contribution.³⁵ The act does

relates to the preparation of young people in mathematics and science.” See page 135 of the 1958 Massachusetts Department of Education Annual Report.

³³ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1581.

³⁴ The “present educational emergency” refers to the Sputnik Crisis.

³⁵ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1581.

not authorize any department or employee of the federal government to control the curriculum or general functions of any institution or school system.

The following titles – not including Title X which outlines miscellaneous legal provisions – describe the intended uses of the allocated funds. Each title stands alone and therefore may be adopted separately by states as they see fit. Although allowing for discrepancies and inconsistencies in education across the nation, in order to be accepted and to be effective, the act must respect the authority of the states within the realm of public education. To truly contribute to the nation’s defense, states must be on board and make their decisions regarding the act of their own volition.

Title II: Loans to Students in Institutions of Higher Education

Title II of the *NDEA* outlines the allotment of tens of millions of dollars’ worth of loans for higher education students in need of support. A majority of the title describes the terms of such a grant, outlining the conditions of use which are not significantly different than the terms under which federal loans for higher education are provided today. These terms include but are not limited to guidelines for the maximum allotments of funds, terms for repayment, terms for receiving merit, or need-based aid, as well as other technical rules. With the received funds, institutions of higher education may only provide loans to full-time students. When distributing financial aid, colleges and universities must give particular consideration to “students with a superior academic background who express a desire to teach in elementary or secondary schools; students whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language;” or students who otherwise display skills or aspirations which promote the defense of the United States.³⁶ In considering the

³⁶ *National Defense Education Act (NDEA) (P.L. 85-864) United States Statutes at Large Vol. 72, 1584.*

recipients of such loans, it is also the responsibility of institutions “to consider the financial interest of the United States and promote” the intentions of Title II with respect to what was approved by the Commissioner of Education.³⁷

Such an investment asserts clearly the importance of educating professionals. Within Title II is a call for teachers, scientists, mathematicians, engineers, and linguists who have the ability to help foster learning and excellence across the country. Each area of study offers obvious benefits for a country in a competition such as that between the U.S. and Russia. Teachers are responsible for training American children to be productive members of society. Scientists, mathematicians, and engineers all contribute to the development and advancement of technologies that bolster the United States’ ability to trump those of the Soviets. Linguists make the world smaller and tie the United States to other important nations who can support the American economy through commerce as well as offer support in the fight against Communism. The assistance offered by federal loans would in theory facilitate the production of such essential minds who would possess the necessary skills to defend the nation.

Title III: Financial Assistance for Strengthening Science, Mathematics, and Modern Foreign Language Instruction

Title III of the *NDEA* was arguably one of the most transformative in the classrooms of America.³⁸ The funding outlined in this title was for “the acquisition of equipment (suitable for use in providing education in science, mathematics, or modern foreign language)” - not including textbooks - “and for minor remodeling” of laboratories or related spaces.³⁹ The provided

³⁷ *National Defense Education Act (NDEA) (P.L. 85-864) United States Statutes at Large Vol. 72, 1584.*

³⁸ Title III also included funding for the advancement of mathematics, science, and foreign language instruction in private schools as the Commissioner saw fit, but that the intention of the title was mainly to fund public schools and facilitate curricular growth. See Title III of the *NDEA*.

³⁹ *National Defense Education Act (NDEA) (P.L. 85-864) United States Statutes at Large Vol. 72, 1588.*

description was intentionally vague, allowing the states to determine what specific changes needed to be made in their own curricula. In this way, the title is effective.

Title III, though stating that it would only provide what funds were necessary, allocated significantly more money than any of the others.⁴⁰ One may infer then that the advancement of mathematics, science, and foreign-language curricula in elementary and secondary classrooms was decidedly more important for America's defense than funding in other areas. Such a clear discrepancy in funding cannot be dismissed as it bears clear significance even today. The passing of the *NDEA* marked a shift in the way that teachers taught their students nationwide. Whether gradual or accelerated, there came a shift in curricula that focused on science and mathematics rather than English language arts, social studies, or the arts, which is still poignant sixty years later.

Title IV: National Defense Fellowships

Title IV of the *NDEA* provided funding for National Defense Fellowships. National Defense Fellowships encapsulate exactly what was intended by the *NDEA*'s title: education in areas that specifically contribute to the defense of the country. Such fellowships are typically in areas of science or engineering training which are of particular importance for the military or other defense purpose and are still in existence today. Title IV outlines specific terms for funds to be provided, including the number of grants offered and the length of time for which they can

⁴⁰ For the year 1959, \$70,000,000 was allocated for the betterment of science, mathematics, and foreign language instruction. For comparison, the second highest amount allocated was \$47,500,000 toward federal student loans. That approximately twice as much money was allocated toward the Title III than Title II emphasizes its importance. See Titles II and III of the *NDEA*. (*National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1583, 1588).

be received.⁴¹ The precise amount awarded was determined by how much is necessary in each individual case.

Under these provisions, fellowships were to be provided for graduate students enrolled in new or newly improved programs of study that contributed to “the graduate training of college or university level teachers.”⁴² These new programs were developed in addition to existing programs of study that produced scientists and engineers. It is impossible to overlook the fact that the work of higher education teachers was being equated to national defense in the same way as the work of military officers and engineers. At a time when the nation’s security was threatened by technological advances of the Soviet Union, it is no surprise that educators became so important. Not only did professors contribute to the academic growth of students, they trained them to be professionals and leaders who were expected to guide Americans toward a prosperous future.

Title V: Guidance, Counseling, and Testing of Able Students

Title V of the *NDEA* appropriated tens of millions of dollars to establish and maintain existing programs for testing and guidance counseling.⁴³ For institutions of higher education, this title provided the necessary funding to establish stronger guidance counselor training programs. If the country wanted to properly guide its youth into productive adulthood, it first must provide them with well-educated counselors.

In order for public schools to qualify for funding, they were expected to follow two steps. First, schools must establish programs for testing in order “to identify students with outstanding

⁴¹ In 1959, only 1,000 National Defense Fellowships were awarded. They could only be renewed for 3 fiscal years.

⁴² *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1591.

⁴³ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1592.

aptitudes and ability.”⁴⁴ Once the brightest students had been identified, it became the job of guidance counselors to not only advise the students to take suitable courses in high school, but also to encourage them to continue their education. As the United States faced the possibility of being surpassed by Russian advancements, it was time to invest in its best and brightest students. Through aptitude testing, the U.S. would then be able to identify future educators, mathematicians, scientists, and leaders. It was those students whom counselors had been trained to guide to colleges and universities.

Title VI: Language Development

Title VI of the *NDEA* provided funding for immersive foreign language training. With the allocated funds, states were expected to establish centers for foreign language learning that could train individuals “in such language are needed by the Federal Government or by business, industry, or education in the United States” and for which adequate training programs do not already exist.⁴⁵ In addition, the states were authorized to use these funds to provide for deeper learning experiences that would “provide a full understanding of the areas, regions, or countries in which such language is commonly used,” such as through history lessons or travel.⁴⁶ It was hoped that such training would produce experienced linguists who would be able to contribute not only within the American economy, but within the world economy. Such productive members of society participated in the defense of the United States’ status as a major superpower.

Title VII: Research and Experimentation in More Effective Utilization of Media for Educational Purposes

⁴⁴ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1593.

⁴⁵ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1593.

⁴⁶ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1594.

Title VII of the *NDEA* allocated funds to be used toward research and experimentation in educational media for use in all levels of education. Within the Office of Education, an Advisory Committee on New Educational Media was established. The Committee was to consist of representatives from the National Science Foundation and other liberal arts.⁴⁷

Utilizing provided grants, states might then conduct or otherwise assist in research and experimentation regarding the development of visual or audio media for use in schools.⁴⁸ These aids included television and motion pictures as well as audio recordings for teachers to utilize. Under the provisions of Title VII was funding for the training of teachers in effective utilization of such media.

The newfound interest in educational media ushered in a significant role for technology in classrooms across the nation. Today there are seemingly endless possibilities for utilizing technology in the classroom thanks to the advancements facilitated through the *NDEA*. In addition to educational movies and videos, today's children also enjoy a wide variety of applications and online games that offer a means of learning on an individualized basis.⁴⁹ Through these innovations, the *NDEA* ushered in a new era of technology-based learning, the extent of which could never have been imagined when the legislation was signed in 1958.

Title VIII: Vocational Education Programs

Title VIII of the *NDEA* allocated funds for the purpose of providing vocational education in areas that lacked access. Vocational schools were intended to help train students – children and adults alike – “to meet national defense requirements... in fields particularly affected by

⁴⁷ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1596.

⁴⁸ *National Defense Education Act (NDEA)* (P.L. 85-864) *United States Statutes at Large* Vol. 72, 1595.

⁴⁹ An example of a popular educational application is ST Math, which is a website that utilizes math-based games to instill basic mathematics skills in elementary school and middle school students.

scientific and technological developments.”⁵⁰ Vocational and technical schools offered an alternative to traditional higher education. Rather than gaining academic degrees, students were offered the opportunity to develop technical skills which would be applicable in real-world settings.

Title IX: Science Information Service

Title IX of the *NDEA* established the Science Information Service and Science Information Council which functions under the National Science Foundation. The purpose of the Service was – and remains today – to provide services and programs that contribute to the “effective dissemination of scientific information.”⁵¹ Such a council would prove to be essential, particularly in the wake of the Sputnik crisis. The accurate and timely diffusion of scientific knowledge throughout the nation was exactly what U.S. citizens needed to combat the fears of Russian technological superiority.

The idea that new emphases in education, established by the *NDEA*, were key to the nation’s protection continued to hold importance following Eisenhower’s presidency. Discussions based on investment in education did not end there. Although the *NDEA* made a significant contribution in the betterment of schools, there was work to be done. In order to continue that progress, the nation needed a president who valued education and would inspire further change with confidence and passion. President John F. Kennedy was a man who fulfilled that need.

⁵⁰ *National Defense Education Act (NDEA) (P.L. 85-864) United States Statutes at Large Vol. 72, 1597.*

⁵¹ *National Defense Education Act (NDEA) (P.L. 85-864) United States Statutes at Large Vol. 72, 1601.*

John F. Kennedy's Messages on Education

Massachusetts Senator (1953-1960) and later U.S. President (1961-63) John F. Kennedy was at the forefront of elevating education in America as a national priority. In his opinion, few things were as important to the success of a nation as education. Education, he claimed, is “the keystone in the arch of freedom and progress,” contributing to the United States’ strength more than any other institution.⁵² To Kennedy, education was both the most important investment of a nation and the most profitable gift it can receive. In particular, Kennedy often called for investments in elementary and secondary schools – which he called “the foundation of [the U.S.] educational system” – to aid in the development of intellectual resources that were essential to the country’s security.⁵³ It is for that reason that he frequently advocated for more intense teacher training in order to better the teaching profession as a whole. More than any other time in history, the Cold War required all of America’s intellectual resources to be utilized in order to keep up with the worldwide race toward technological advancement. Investment in the nation's schools were a priority under his administration.

According to Kennedy, problems within the U.S. public school system were “a massive threat to freedom,” especially when faced with Russian advancements that had instilled fear in Americans since the launch of Sputnik.⁵⁴ The continuing pressure of the Cold War required a national focus on improvement and innovation for both economic success and national defense. To perform well in competition with the Soviets, the U.S. needed “sufficient numbers of scientists and engineers to cope with the fast-changing needs” of the time period.⁵⁵ Echoing the

⁵² John F. Kennedy. The White House Message on Education. Office of the White House Secretary. Washington D.C., January 26, 1963. From JFK Library, President’s Office Files, p. 1.

⁵³ John F. Kennedy. The White House Message on Education. February 5, 1962, p. 3.

⁵⁴ John F. Kennedy. The White House Message on Education. February 5, 1962, p. 9.

⁵⁵ John F. Kennedy. The White House Message on Education. February 5, 1962, p. 5.

sentiments of Title III of the *National Defense Education Act* of 1958, Kennedy called for the development of better instructional materials, laboratories, and educational programs in elementary and secondary schools for the purpose of instilling a love for scientific learning in the children who had the potential to be the next generation of leaders. It was for that reason alone that the federal government's funding was necessary as it would be impossible for all of the states to reach excellence without it. Education was viewed as "the right--the necessity--and the responsibility" of all Americans, justifying its dependence on funding on the national level, rather than local.⁵⁶

Kennedy was a vehement advocate for federal investment in education despite the controversy that the topic garnered. For Kennedy, it was untrue to assume that "federal money means federal control."⁵⁷ By the 1960's the federal government had been involved in education for one hundred years without that fear being realized. In his opinion "the control and operation of education in America must remain the responsibility of State and local governments" in order to ensure that the American educational system is one of freedom, diversity, and vitality.⁵⁸ In fact, neither he nor any member of his administration had any desire for the federal government to be responsible for education as it was "neither desirable nor feasible" to do so.⁵⁹ Particularly after the past decade of federal desegregation efforts following the ruling of *Brown v. Board of Education* (1954), Kennedy was aware that a federal overstep would only further frustrate southern states. It was for that reason that Kennedy continued to defend federal support in schools. He believed that the past century of proof that financial aid from the government creates growth should speak for itself. The federal role was not one of control, but one of support in

⁵⁶ John F. Kennedy. The White House Message on Education. February 5, 1962, p. 2.

⁵⁷ John F. Kennedy. The White House Message on Education. February 5, 1962, p. 2.

⁵⁸ John F. Kennedy. The White House Message on Education. February 5, 1962, p. 2.

⁵⁹ John F. Kennedy. The White House Message on Education. January 26, 1963, p. 3.

identifying educational goals that would benefit the nation. Once those goals had been established, the federal government's purpose was simply to supply the necessary funds for all levels of schools to be able to make necessary changes independently.⁶⁰ With that stability and security, states would be able to make beneficial changes in order to enhance learning in their schools.

Though his Presidency was cut short, John F. Kennedy left behind a legacy of passionate advocacy for American education.⁶¹ Throughout his presidency, Kennedy was continually outspoken on the topic of investing in necessary improvements for the nation's public schools and universities. Kennedy's administration continued the important conversations about education's role in American security that began under Eisenhower because according to Kennedy, "a free Nation can rise no higher than the standard of excellence set in its schools."⁶²

The Johnson Administration and the *Elementary and Secondary Education Act*

After Kennedy's untimely death, progress for the benefit of the nation's public schools did not end. His passion for education lived on through his former Vice President, Lyndon B. Johnson, after he took office in 1963. Johnson felt as Kennedy did that education was necessary for democracy and therefore worthy of a national commitment. Democracy was a foundational value of the United States. As such, Johnson was able to pass further education legislation - the *Elementary and Secondary Education Act* - with great urgency,⁶³ passing by "a vote of 263 to 153" in the House and "73 to 18" in the Senate.

⁶⁰ John F. Kennedy. The White House Message on Education. January 26, 1963, p. 3.

⁶¹ Prior to his assassination, John F. Kennedy planned to pass the National Education Improvement Act of 1963 to address issues in classroom instruction. Unfortunately, Kennedy passed away before the legislation was finished. See JFK's 1963 White House Message on Education.

⁶² John F. Kennedy. The White House Message on Education. January 26, 1963, p. 1.

⁶³ It is worth noting that while educational improvements were made with urgency and fervor, it was not to the same degree as the *NDEA* as the threat of war and competition was less than it had been in the wake of Sputnik.

The *Elementary and Secondary Education Act (ESEA)* was signed into law on April 11, 1965. According to Johnson, the *ESEA* was representative of his own commitment to education as well as the “commitment of the federal government to quality and equality in the schooling” that is offered to American youth.⁶⁴ Johnson saw the passing of the act as the beginning of “a new day of greatness in American society” as new opportunities were born. By passing the *ESEA*, Johnson said, the government would lead an effort to “bridge the gap between helplessness and hope for more than five million educationally deprived children” across the country. Through the passing of this act, the United States contributed to national defense in more ways than just through offering educational resources. The passing of this act was symbolic worldwide as well. The Soviet Union, due to its Communist ideals, saw the United States’ educational policies - among others - to simply be “an instrument for preserving the existing social class structure and social injustice.”⁶⁵ The *ESEA* proved that the Russian criticism of American education was unfounded.

In the creation of this act, Johnson worked closely with Commissioner of Education, Francis C. Keppel (1916-1990).⁶⁶ Commissioner Keppel had been appointed by John F. Kennedy during his presidency and continued to be a force for education change under President Johnson.⁶⁷ Keppel enjoyed a long career in education, obtaining positions such as dean of Harvard Graduate School of Education and United States Commissioner of Education. He had a hand in the creation of important legislation such as the *Civil Rights Act* of 1964 and the

⁶⁴ Lyndon B. Johnson, "Johnson's Remarks on Signing the Elementary and Secondary Education Act" (Johnson City, TX, April 11, 1965).

⁶⁵ Morton Schwartz, *Soviet Perceptions of the United States* (University of California Press, 1981), 151.

⁶⁶ Edward J. Miech, "The Necessary Gentleman: Francis Keppel's Leadership in Getting Education's Act Together." Ph.D. diss., Harvard University, 2000.

⁶⁷ One issue that was extremely significant to Keppel was civil rights, particularly in schools. His contributions through the Civil Rights Act of 1964 are not relevant to the focus of this thesis, however, his efforts must be noted as they were extremely transformative for the nation.

Elementary and Secondary Education Act of 1965. The purpose of the *ESEA* was to make education equal and accessible for all students, a cause which was exceedingly important to the Commissioner. Keppel has been quoted by colleagues as having said that “education must make good on the concept that no child... is either unteachable, or unreachable,” so it comes as no surprise that he would be a tireless advocate of the *ESEA*’s provisions, which offer otherwise unattainable resources and opportunities to all Americans.⁶⁸

The act itself was broken down into six titles. The titles work similarly to those of the *National Defense Education Act* in that they function independently of one another and were to be adopted separately at the discretion of the states. Each title outlines recommended provisions to enhance accessibility and equity within elementary and secondary schools across the nation. Some of the included provisions offer financial assistance for the education of children in low-income families, funding for instructional resources in areas of poverty, educational services for areas in need, and grants to help strengthen State Departments of Education (*ESEA*). The act remains significant today, having been reauthorized in recent years.

Curriculum Change and Massachusetts’ Response to the *NDEA*

Changes to education policy, while significant in understanding the context of a time period, are meaningless if not implemented on the ground. With the control of education in the hands of states rather than the federal government, the only way for policy changes to reach students is through state authorization. During the first twenty years of the Cold War, public school systems, particularly in Massachusetts, underwent great changes within their curricula as

⁶⁸ Mortimer J. Adler, "The Great Books, the Great Ideas, and a Lifetime of Learning" (lecture, Harvard's Lowell Lecture, Cambridge, April 11, 1990). (A transcript of Adler’s speech can be found at <http://www.theradicalacademy.org/adlerlowelllec.html>.)

a result of new legislation. Though state frameworks did not yet exist and classroom lesson plans and artifacts have long since been recycled, donated, or otherwise discarded, one can still easily find evidence of changes that occurred in classrooms through the Massachusetts Department of Education.⁶⁹

Significant changes and goals within the state are outlined annually in the Department of Education's Annual Reports. These reports include information such as the superintendent's annual address to the legislature, rosters of various committees and advisory groups, statistics of school enrollments, and state plans for the following fiscal year's education investments. Examining Annual Reports from 1940 to 1970, it is abundantly clear that the changes implemented in Massachusetts schools were likely a best-case scenario for attainment of the federal government's goals. As a state which has historically been a leading force in public education, it comes as no surprise that Massachusetts would be open to making changes and improvements within its schools.⁷⁰ Of particular importance to this thesis are the changes that occurred in 1959 and 1966, the years following the signing of major education legislation, the *National Defense Education Act (NDEA)* and the *Elementary and Secondary Education Act (ESEA)* respectively. Both acts were accepted for implementation by the state within one year of being approved by Congress, though not in their entirety.⁷¹

⁶⁹ A special thank you to Bridgewater-Raynham's Superintendent, Derek Swenson, for taking the time to speak to me on this matter. Superintendent Swenson informed me that there was not an effective way of archiving such artifacts, redirecting me to the Massachusetts Department of Education for further assistance in my research.

⁷⁰ Massachusetts is often seen as a leader in education due to the fact that the first public school in the United States was the Boston Latin School (est. 1635) in Boston, MA. See John L. Rury *Education and Social Change: Contours in the History of American Schooling* (London: Routledge, 2012.)

⁷¹ The *NDEA* was approved by Congress on September 2, 1958. Based on the Massachusetts Department of Education's Annual Report for the year 1959, the *NDEA* had been accepted by Massachusetts Educators by the time the Annual Report was published on June 30, 1959. The *ESEA* was approved by Congress on April 11, 1965. Based on the Massachusetts Department of Education's Annual Report for the year 1959, the *ESEA* had been accepted by Massachusetts Educators by the time the Annual Report was published on June 30, 1966. See *National Defense Education Act, Elementary and Secondary Education Act*, the Massachusetts Department of Education's Annual Report for the year 1959, and Massachusetts Department of Education's Annual Report for the year 1966.

The Elementary and Secondary Education Act

Of the six titles of the *ESEA*, only Title III was acknowledged by Massachusetts educators in the Annual Reports.⁷² Title III of the *ESEA* offered funding for the development of educational programs and centers to supplement learning within communities where resources were lacking.⁷³ As a state that did not struggle with extreme poverty or lingering desegregation in schools, the provisions of the *ESEA* were not deemed necessary for the state. Much like with the implementation of the *NDEA*, the *ESEA* was utilized primarily in the betterment of science and mathematics as they were subjects that Massachusetts educators admitted stood to be improved.⁷⁴ Unlike the *NDEA*, the *ESEA* was not passed during a time of nationwide panic. As such, it is no surprise that its reception in a wealthier state like Massachusetts would be relatively lukewarm despite being accepted quickly.

The National Defense Education Act

The creation and implementation of the *NDEA* in Massachusetts was decidedly more urgent than that of the *ESEA*. The Massachusetts Department of Education called the launch of Sputnik a “momentous event [that] sparked a rather questioning attitude on the part of Americans toward public education, particularly as it relates to the preparation of young people in mathematics and science,” stating that Congress passed the act because it recognized its responsibility to address “the critical needs of America's educational system” in order to successfully compete with the Russians.⁷⁵ Acknowledging the legislation’s importance, the

⁷² Massachusetts Department of Education, *Annual Report of the Department of Education Year Ending June 30, 1966*, 56.

⁷³ *Elementary and Secondary Education Act (ESEA)* (P.L. 89-10) United States Statutes at Large Vol. 79 p. 27-57.

⁷⁴ Massachusetts Department of Education, *Annual Report of the Department of Education Year Ending June 30, 1966*.

⁷⁵ Massachusetts Department of Education, *Annual Report of the Department of Education Year Ending June 30, 1959*, 17.

Department asserted that federal support was a welcome supplement and was in no way an encroachment upon the state as it offers direction with very minimal - if any - control actually exerted. That the states also acknowledged the minimal scope of the federal intervention reasserts what Kennedy would later try to remind the country: federal funds do not mean federal control. Though urgent, the *NDEA* was carefully formulated and was successful in ensuring the rights of the states as a result. The role of the government was simply to guide the country toward a place of strong national security.

Regarding implementation in the state, Massachusetts chose four of the ten titles to give primary focus. Of the ten, the Massachusetts Department of Education Annual Reports gave special mention to Title II, which provided student loans for higher education; Title III, which strengthened mathematics, science, and modern language instruction; Title V, which funded guidance counseling and testing initiatives; and Title X, which provided necessary legal and pragmatic guidelines for the *NDEA*. Of particular interest to both the state and this thesis was the focus on Title III.

At the time that the *NDEA* was approved in Massachusetts, the Department of Education considered improvement of instruction to be “vitally important.”⁷⁶ Title III offered the state an opportunity to facilitate “a significant breakthrough in... mathematics, science, and modern foreign languages” by offering school systems much needed equipment updates as well as remodeling for science and language laboratories.⁷⁷ The changes within each subject were outlined in the Annual Reports under a section devoted to the State’s plans. Significant changes to instruction occurred in both elementary and secondary schools across the state.

⁷⁶ Massachusetts DOE, *Annual, 1959*, 17.

⁷⁷ Massachusetts DOE, *1959*, 17-18.

Changes in the Elementary School Classroom

Elementary schools across Massachusetts made changes to instruction in mathematics, science, and modern foreign-language studies. The state recommended a variety of areas for improvement in each subject, utilizing the resources made possible by federal funding. For each of the three subjects, funding was expected to be used to acquire non-textbook materials for the classroom. Those materials may include “reference materials, technical equipment, audio-visual” equipment, as well as any other necessary laboratory equipment that may contribute to student engagement.⁷⁸ With new equipment, schools were expected to alter the way that subjects were taught in order to make them more effective.

In mathematics, according to the Department of Education, learning had been mainly done with the help of textbooks and workbooks. Although textbooks and workbooks are extremely valuable resources for students, children require more variety in the classroom. To address those needs, the State recommended that teachers “increased emphasis on problem-solving” in the classroom.⁷⁹ By learning how to problem solve, children are able to develop both basic skills necessary for mathematics mastery as well as critical thinking skills that may be applied elsewhere. Rather than only preparing students to deal with equations, valuable life skills were to be instilled through the mastery of the subject.

Compared to the previous program of science instruction, the Department believed learning should be more hands-on. Utilizing federal funds to improve laboratories and equipment used for classroom demonstrations, the State recommended, once again, a more engaging mode of learning than simply reading and regurgitating textbooks material.⁸⁰

⁷⁸ Massachusetts DOE, 142.

⁷⁹ Massachusetts DOE, *Annual, 1959*, 141.

⁸⁰ Massachusetts DOE, *1959*, 141.

At the end of the 1950's, foreign language education was a relatively new program of study, particularly in the lower grades. By the passing of the *NDEA*, the programs were beginning to gain popularity and momentum across school systems. The earliest programs were widely successful, warranting a further investment.⁸¹ In an increasingly connected world, particularly following WWII, there was a growing need for multilingual citizens of the world. For a variety of reasons, language instruction was - and is - important for children. As potential future leaders, the fate of American foreign relations and economic ventures hypothetically depended upon the foreign-language proficiency of American students.

Elementary school students are at an age when they are developing foundation skills upon which they will continue to grow until their educations cease. It is for that reason that the federal government and the state of Massachusetts deemed it necessary to improve basic instruction in science, mathematics, and language. Not only would these skills make children into valuable, productive members of society, they would also offer them the opportunity to be the next generation of scientists, teachers, and defenders of the nation.

Changes in the Secondary School Classroom

Growing past elementary school, secondary school students continue to build upon the foundational knowledge they gained in elementary school. Whether preparing for college or the workforce, having a basic mastery of science, mathematics, or foreign language had the potential to benefit students immensely. In particular, at the time of the *NDEA*'s passing, the United States' workforce had a dire need for more diplomats, scientists, and engineers. Bolstering knowledge and encouraging students to pursue those field was of utmost importance. The first step in doing so was improving the quality of instruction early on.

⁸¹ Massachusetts DOE, *Annual, 1959*, 145.

In mathematics, the response was mainly the same as in elementary schools. Effective instruction could not be achieved by sticking students' noses in textbooks, but rather would require active engagement. As such, new technologies and methods of instruction were being developed at the time. More substantial changes occurred within the sciences. According to the Department of Education, a majority of science classes in middle schools and high schools were wholly inadequate as far as both equipment and instruction.⁸² It is for that reason that the state developed a variety of committees - such as the Mathematics and Science Advisory Committee - to contribute to projects for the enrichment of instruction. Employees of the state both developed new programs of instruction and enhanced already established areas of instruction. As technological advances continued to be made worldwide, new and interesting facets of the sciences were revealed.⁸³ New units of study were periodically added to the curriculum in order "to provide for the fullest possible academic achievement of all students."⁸⁴ Reaching their full academic potential, students were more likely to gain proficiency as well as interest in these areas of study. Pursuing these subjects further, bright new scientists would be produced. Those scientists had the potential to make a world of difference, particularly in America's technological competition with the Soviet Union.

Surrounding the instruction of foreign languages is a misconception that all that students were taught were translations. Thanks to the support of the *NDEA*, that was not the case. As stated in the previous discussion of the *NDEA* as a whole, the improvements to foreign-language instruction went as far as to encourage cultural education in addition to learning the language

⁸² Massachusetts DOE, *Annual, 1959*, 142.

⁸³ Following the invention of the American atomic bomb in 1945, physicists such as J. Robert Oppenheimer gained prestige and admiration. As a result of the contribution of physicists in such a transformative technological advance, the true potential and value of physics was understood.

⁸⁴ Massachusetts DOE, *Annual, 1959*, 143.

itself. An appreciation of culture was to yield an appreciation of the language which in turn would facilitate learning. The Department of Education was distinctly aware that foreign-language programs were lacking in numbers. In order to produce more masterful linguists, *NDEA* funds were used to purchase resources which may engage students more deeply in their learning and support them in their acquisition of “necessary oral-aural skills.”⁸⁵

Contributions from Bridgewater Teachers College

In Massachusetts, the changes proposed by *NDEA* had important implications for the state teachers colleges, those institutions that, since 1839, had been charged with preparing public school teachers with a mastery of uniform and pertinent curriculum. In particular, the beneficial changes which occurred in Massachusetts schools could not have happened without the support of Bridgewater Teachers College. Bridgewater Teachers College played an essential role in the changes to Massachusetts schools in more ways than just producing skilled educators. In April of 1958 Bridgewater hosted the 43rd Annual Conference for Superintendents of Schools in Massachusetts which focused heavily on discussions of science and mathematics in public schools.⁸⁶ That conference provided the education administrators of the state to educate themselves about the necessity of change in their school systems. At Bridgewater State, moreover, one faculty member, Evelyn R. Lindquist, played an essential role in furthering conversations about the value of mathematical and scientific learning and innovation. A member of the Massachusetts Department of Education’s Mathematics and Science Advisory Board, Lindquist created a connection between Bridgewater Teachers College and the fate of classroom curricula across the state.

⁸⁵ Massachusetts DOE, *Annual, 1959*, 144.

⁸⁶ Massachusetts DOE, *Annual, 1958*, 138.

Conclusion

Admiral Rickover never could have imagined the impact that federal intervention in American public education would have during the 10 years following his 1958 speeches. Following Russian advancements in science and technology as well as the threat of nuclear war, the United States was forced to rethink the way it prepares its children to contribute to and participate in society. Particularly following the launch of Sputnik, the country grew increasingly aware that to offer its children the best future possible, the nation needed to invest in their education. America's children would be the next generation of doctors, physicists, teachers, diplomats, and leaders. What was taught to these children would shape the future of the United States. For the first time in history, schools were seen as a form of national defense. The federal government was forced to intervene in some fashion for the betterment of the nation. Passing various education legislation, the federal government invested billions of dollars in the nation's schools. Though the government had invested in schools for a century before the Cold War, there had been no other time in history when such involvement in curriculum would have been received so well. The urgency signaled to the nation that this was a matter of national concern. Through federal legislation such as the *National Defense Education Act* (NDEA), the government funded positive change in the classroom. More and more resources were invested in subjects such as mathematics, science, and foreign language in order to prepare the nation's children for a prosperous future. It is worth noting, however, that the classical curriculum – social studies, literature, and the arts – has since suffered a compared disadvantage due to the elevation of science and mathematics.

Since the Cold War, the federal government has continually offered its aid to public education through legislation such as *No Child Left Behind* (2001) or the Every Student Succeeds

Act (2015), which are extensions of the *Elementary and Secondary Education Act* (1965) passed during this time frame. Though current secretary of education, Betsy DeVos has advocated for decreasing the federal role in education, no meaningful changes have been made and the federal government still provides significant aid to direct American education and benefit America's children today. Federal aid, while controversial, opens doors and presents new opportunities to children all across the nation. Though not with the same urgency, America's children are still seen as the future. To cease to invest in their education would be irresponsible, particularly in divisive times such as these. In the wake of a budding Cold War between the United States and China, to shy away from investing in our children would be doing the nation a great disservice. Rather, we must learn from the leaders of the Cold War-era and invest in our education accordingly.⁸⁷ Since the founding of the United States, education has been valued as the key to democracy and today, the key to American strength and American success.

⁸⁷ Federal aid in education today can be seen as contributing to American strength rather than defense. The sense of competition has not lessened since the Cold War, it is simply different in its nature. Looking at the results of the Programme for International Student Assessment (PISA) tests, it is clear that the United States is lagging behind other nations. According to the 2012 test, the United States is roughly average in the areas of reading and science, lagging behind other powerful countries and territories such as Hong Kong, Korea, Canada, and Switzerland among others. In mathematics, the U.S. has fallen below average, showing the ways in which public education has reverted after such a huge shift toward mathematics instruction in the 1960's. Living in a time that may one day be considered the second Cold War, it is important for the United States and its educators to learn from America's past in order to educate its children effectively. See J. Michael Bodi, "International Standardized Testing: The Measurement Problem" *Bridgewater Review*, 36, no.1 (May 2017).

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