An Analysis of the Relationship Between Common Core Standards and Student Success

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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The field of education seeks to achieve an enduring and difficult yet understatedly important task as it works to perfect strategies that prepare children to be successful, contributing members of an ever-changing society. New technology and social norms have transformed radically over time, and education has thus had to change in response; a simple math lesson once taught on a blackboard is now an interactive virtual experience on an iPad in a classroom digitally connected to the world around it. The United States has historically been able to maintain a superior standard of education even as society becomes increasingly complex, as was evident by the country's consistent top-10 positions in elementary education rankings. However, this has not held true in recent years; the United States now ranks 24th in Science and Reading and 39th in Math according to scores on the Program for International Student Assessment (PISA), indicating the need for reform in the American education system (DeSilver, 2015). Therefore, the Common Core State Standards (CCSS) was developed to close the gap between American education goals and student performance. However, evidence suggests that there is a discrepancy between the goals the Standards set out to achieve and the actual progress that students have made under this set of initiatives. This research sets out to explore the reasons for this disparity by considering the Common Core Standards in the context of the larger education system. The application of co-production framework to the education system highlights how key social groups have shaped the impact of CCSS in tandem with the actual guidelines surrounding the initiative. The thesis employs this framework to understand the current sentiments of these social groups, how these attitudes affect the success of the CCSS, and the changes that can be made to the CCSS within the education system to provide United States citizens with the academic foundations they need to succeed.

Methodology for Exploring Group Sentiments Toward the CCSS

What perceptions of the Common Core State Standards (CCSS) exist among key social groups within the American elementary school system, and how do these perspectives affect the success of the standards? This question is addressed by a comprehensive literature review on publications in the past decade that highlight viewpoints of key stakeholders in American elementary education. An abundance of studies that set out to determine the sentiments of various groups involved in elementary education are discovered through searches that include but are not limited to keywords such as common core state standards, public perception, sentiment, and social impact. Through thorough investigation of the collected studies, four relevant social groups involved in elementary education are extracted and defined: teachers, the general public, parents, and policymakers. However, little literature exists that assesses why each social group has formed certain opinions or that explores the impact those perceptions may have on the success of the standards. These knowledge gaps allow novel contributions to Common Core research to be made in this paper. Areas for development within online education are identified in the context of the Wicked Problem framework, which is incorporated to highlight limitations that exist within the complex nature of the higher education system and the systems that support it. Ultimately, these methods inform the research question by providing a holistic basis on which to draw conclusions about how prominent perspectives in the field of education influence the success of the Common Core State Standards, and what might be done to remove any barriers these perspectives present.

History of the Common Core in America

The need for education reform became evident when the results of an international study surfaced, revealing that the United States' educational progress has recently remained stagnant while that of other countries continues to improve ("About the Standards: Common Core State Standards Initiative," n.d.). This drove the National Governors Association Center for Best Practices and the Council of Chief State School Officers (CCSSO) to develop the Common Core State Standards Initiative as "a state-led effort to establish consensus on expectations for student knowledge and skills that should be developed in grades K-12" (Porter, McMaken, Hwang, & Yang, 2011). The Standards outline what students should know and be able to do at the end of each grade with the intent to raise all students to a high and equal standard of education. For example, a Common Core Standard for Grade 3 math is to "recognize area as an attribute of two-dimensional regions" (Grade 3 Common Core Standards Introduction, n.d.). While the Common Core Standards only dictates goals that students should meet, the policy's adoption has influenced nearly every aspect of elementary education; extensive changes to teacher training, lesson plans, classroom structure and more are required to improve learning on the basis of the Common Core.

Since the creation of the policy in 2009, forty-one states have adopted the Common Core Standards (Achieve, 2013). Proposed benefits of the Common Core Standards include consistency through shared expectations, increased focus on curricula, efficiency in curricula and assessment building, and enhanced quality of assessments (Porter, McMaken, Hwang, & Yang, 2011). However, experts have doubts about the success of the initiative. A 2018 study conducted by Daniel Hamlin and Paul E. Peterson reveals that there is no relationship between the average

change in proficiency standards in each state and the average change in test scores from 2009-2017, suggesting that the Common Core Standards may be perceived to improve American education by a greater margin than they actually do (Hamlin & Peterson, 2018). It is important to consider the Standards in the greater context of the society in which they function in order to understand the reasons for inconsistencies between the expected and actual achievement of students who are taught by those who have adopted the Common Core Standards so that the policy can be as successful as possible.

Co-Production and the Common Core

While the purpose of most technology is to improve or impact a specific aspect of society, it often does not affect society on its own. Rather, society plays a role in shaping that technology, and in turn defines how society itself will be affected by the technology it has shaped. In such instances, it would be remiss to analyze a technology solely by assessing the impact it has on society or the impact society has on it. The co-production theory, introduced by Harvard STS Professor Sheila Jasanoff in 2006, provides a more holistic framework for analyzing the simultaneous processes that take place to define the interaction between society and technology. The framework "shows how scientific ideas and beliefs, and associated technological artifacts, evolve together with the *representations, identities, discourses,* and *institutions* that give practical effect and meaning to ideas and objects" (Jasanoff, 2006). In current research, literature discussing co-production is becoming more rapidly available as healthcare researchers employ the theory in hopes of developing a partnership between researchers and patients in creating solutions tailored to patients' needs (Tembo, Morrow, Worswick & Lennard, 2019). The application of the co-production to this industry highlights

significant drawbacks of the framework. The ambiguity of the theory's definition often leads to confusion over what counts as co-production: what is being produced, under what circumstances, and with what implications for participants? (Filipe, Renedo & Marston, 2017). Additionally, in practice, the ability for society to intervene in the production of technology can be limited by professional power over processes (Tembo et al., 2019). Despite these criticisms of co-production, Melissa Leach, Director of the Institute of Development Studies at the University of Sussex, explains that co-production is necessary to ensure technology is "…designed and produced in ways that speak to and are relevant to the perspectives, priorities and interests of particular groups" (Leach, 2014). Therefore, the concept of co-production is applied to the Common Core State Standards to understand how the perspectives, priorities, and interests of relevant groups have shaped the outcome of the CCSS, as well as to determine changes that can be made within the education system to improve the CCSS for all stakeholders involved.

Analyzing the Impact of Sentiment on the Common Core State Standards

Since its inception, the Common Core State Standards have faced controversy otherwise unparalleled in the field of education today. Four key social groups have contributed to the growing disputes and debates about the initiative: (1) teachers, instructors, and administrators; (2) local and online public communities; (3) parents of elementary-aged students; and (4) policymakers and political agencies. While specific perspectives about the implementation of the Common Core vary within each social group, negative sentiments consistently eclipse any neutral or positive ones that exist. Despite the parallels between the groups' dominating viewpoints, each individual group plays a critical role in the overall success of the CCSS, as each entity's sentiments permeate students' day-to-day learning in a distinct and significant way. As

such, the concept of the Common Core Standards has been highly susceptible to influence by the identities and discourses that different groups in education society have placed upon it. Therefore, successful reform of the Common Core Standards cannot come solely from a mission to improve the Standards as they function within the classroom, but must simultaneously stem from a movement to shift the perceptions about the CCSS initiative for all relevant social groups.

Teacher Sentiment

Teachers' perspectives are paramount to the successful delivery of CCSS material to students, as an instructor's sentiment undoubtedly pervades the way he or she prepares content, executes lessons, and interacts with students in the classroom. A 2016 study conducted at Georgia State University used both qualitative and quantitative survey questions to explore the perspectives of 73 teachers at a large urban elementary school. Results of the survey show that teachers do not demonstrate an inherent negative attitude toward the initiative; in fact, "almost all teachers believed the standards would improve their instruction and benefit student learning" and felt that the Standards, which emphasize student exploration over teacher instruction, equipped students with more useful skills than past curricula (Swars & Chestnut, 2016). Despite these initially positive attitudes toward CCSS, both teacher-oriented and student-oriented constraints have introduced inevitable feelings of negativity toward the initiative. The Common Core Standards demand an entirely new way of thinking through problems, forcing teachers to unlearn established frameworks and relearn new strategies well enough to teach them. A participant in the study expressed that this obstacle is further complicated by a lack of curricula supporting the standards: "Teachers have not been given any curriculum materials... that aligns with the standards... So, the challenge here is that... not only are we having to learn new

standards, but we are having to create everything we are doing and hoping that we are understanding." (2016). In addition to a lack of materials to supplement the CCSS, a study conducted at Auburn University highlights a shortage of teacher instructional support nationwide, stating that "fewer than fifty percent of school districts planned professional development geared towards implementing and aligning Common Core standards in 2012," and that schools who did conduct training typically did so in less than three days (Burks et al., 2015). Both studies also note that teachers fear a lack of student readiness and perceive a misalignment between the Standards and different types of students, such as English Language Learners (ELLs) or children with disabilities.

The addition of these barriers to the already difficult challenges in teachers' daily jobs presents teachers with a formidable task. It is not surprising that many teachers quickly become confused, stressed, and overwhelmed by the increased amount of work they must do to teach their students and by the pressure they feel to successfully teach material in an unprecedented way. Regardless of the potential benefits teachers may see in using the Common Core, day-to-day frustrations with the new initiative manifest themselves by negatively impacting instructors' performance, whether through underdeveloped lesson plans, loss of sleep, loss of patience, or the like. Less effective teaching is therefore not the result of the CCSS itself, but is rather co-produced with teachers' perception of the Standards as a daunting new undertaking with little support or guidance. Frustrations with the Standards negatively affect the environment teachers create in the classroom, and that environment, in turn, further restricts the potential of the Standards themselves. Over time, the CCSS technology has become synonymous with teachers' natural response to the challenges the Standards present.

Public Sentiment

The public, while perhaps the least connected to the elementary education system, arguably plays the largest role in determining overall attitudes toward the CCSS. Two platforms, Twitter and community newspapers, will be considered when assessing public sentiment in this paper. A 2019 study that conducted a sentiment analysis on 660,051 tweets containing the hashtags #CommonCore and #CCSS over a one-year period found that Twitter users expressed overwhelmingly negative sentiment toward the CCSS in all 50 states, with an average among the states of 3.44 negative tweets for each positive tweet (Wang & Fikis, 2019). It must be noted that a critical explanation for the results of this study lies in the tendency for social media users' opinion on a controversial topic to be influenced by their exposure to the one-sided social media comments, regardless of their reported level of previous knowledge (Witteman et al., 2016). This phenomenon does not diminish the impact of the study, but rather strengthens it by demonstrating the susceptibility of the public to absorb and later spread ideas without taking the time to develop an informed opinion.

Similarly, a study conducted in 2015 found that of 69 editorials and opinion articles about the Common Core found in community newspapers since 2009, 52.2% expressed either negative or cautionary sentiment about the state initiatives (Pense, Freeburg & Clemons, 2015). While this slight majority may appear insignificant, it is important to consider the psychological phenomenon known as negativity bias, or the notion that negative information tends to influence evaluations more strongly than comparably extreme positive information (Ito et al., 1998). The application of negativity bias to this study demonstrates that the public, most of whom are

uninformed about the specific details of the Common Core, are apt to form negative associations with the Common Core Standards even if they have read an equal amount of positive press.

Together, these studies provide examples of and reasons for overwhelmingly negative perceptions of the Common Core by the public on media platforms. They also suggest that the Common Core is co-produced with negative public perceptions of the initiative. The rapid spread of negative attitudes toward the Common Core sets a precedent for those who later interact with the initiative in any way, preemptively dissuading students, parents, teachers, and the like from accepting the Common Core Standards. Thus, these critical users begin to associate the CCSS with feelings of tension and apathy rather than with the hope of progress and improvement. Co-production is clearly at work as negative practical effects are incorporated into a potentially successful program before it has had the opportunity to succeed independently of public opinion.

Parent Sentiment

In elementary education, parents are not an afterthought, but instead key players in ensuring students are receiving the support they need to excel in school. Therefore, examining parent perspectives provides relevant insight into the influence of CCSS perceptions on the effectiveness of the initiative in the classroom. Figure 1, which displays data collected from

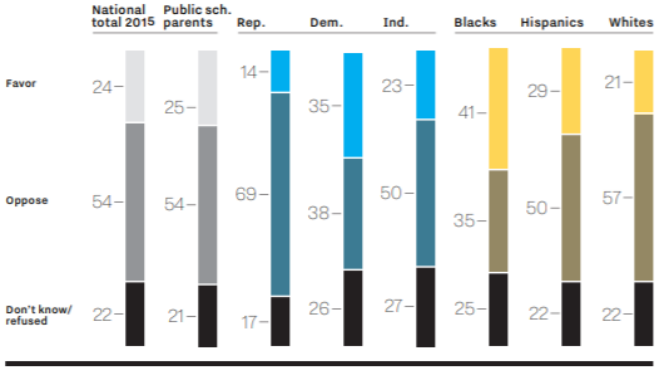

Figure 1: Percentages of parents of different demographic groups in support or opposition of the Common Core Standards. Reprinted from "Common Core Out of Favor," by J. Richardson, 2015, *PDK/Gallup Poll of the Public's Attitude Toward the Public Schools*, 14-15.

1,000 respondents in the 2015 Phi Delta Kappan (PDK)/Gallup Poll of the Public's Attitudes Towards the Public Schools, shows that more parents oppose the Common Core Standards than support them in nearly every subpopulation (Richardson, 2015). Interviews with parents reveal central reasons behind their viewpoints: one mother in favor of the standards argues that "The standards are challenging students, teachers, parents, the community as a whole to… help everyone understand that more is expected of them," while those who oppose the initiative state that schools "stopped being lively and interesting places to learn because… the test-driven curriculum is transforming schools into assembly lines trying to churn out students who meet a prescribed standard of uniformity," and that teachers would "spend disproportionate time on tested subjects, more time on test preparation, and the curriculum would be narrowed." Determining how parents have developed these conjectures is critical to understanding how parent perceptions can be influenced. Another question from the survey reveals that just 46% of surveyed public school parents learned about the Common Core from their students' school, while the remaining parents learned about the initiatives from either traditional media or social media (Richardson, 2015). This statistic further highlights the strong influence the public media has on the perceptions of those directly involved with the Common Core.

The evidence presented in the PDK/Gallup poll demonstrates that a majority of parents feel negatively about the CCSS, most likely due in part to incorrect or missing information. The universally-known "Bobo Doll" experiment conducted by Albert Bandura in 1967 highlights the significance of the consequences of a parent's negative sentiment toward an aspect of his or her child's learning, and provides further evidence that the CCSS is co-produced with parent sentiment toward the initiative. This experiment, in which children chose to copy adults who attacked a blow-up doll, supports the widely-accepted theory that "children learn through the

observation of adult behavior" (Nolen, 2015). It follows that if a parent demonstrates negative opinions and attitudes about the Common Core State Standards in front of their child, that interaction will have a direct impression on the way their student approaches learning under the CCSS. Students who do not believe in the education they are receiving are less apt to be motivated to pay attention, work hard, and succeed in the classroom. In this way, the success of the CCSS is co-produced with the views of the parents whose children are taught under the policy.

Policymaker Sentiment

While education policymakers do not see the results of their decisions firsthand, the perspectives they share are critical, as they set the tone with which the Common Core State Standards policies are accepted and implemented. Unlike the other social groups, there appears to be a more proportional divide between policy groups who support and groups who oppose the CCSS. Groups such as the Gates Foundation and the National Education Association support the standards, while the Heritage Foundation and Diane Ravitch and her followers do not. However, more granular results can be revealed by analyzing the specific policy frame with which each group views the standards than by assessing whether they hold generally positive or negative perspectives on them. Juan Sánchez investigated 107 documents of various types from the aforementioned policy groups and discovered four main lenses the groups used to frame and support their arguments: (1) market logic, which argues that the Common Core is needed to ensure America stays competitive in the global market; (2) technical logic, which presents the view that uniform standards are needed to improve education; (3) democratic logic, which supports the idea that standardized curricula does not support a diverse population; and (4)

pragmatic logic, which raises questions about the implementation of de facto policy (Sánchez, 2019). These findings suggest that the public hears news not solely about the facts behind the CCSS, but instead about the CCSS under the lens or lenses a policy group employs to argue for the legislation they support. Such news co-produces the CCSS as it detracts from the main goal of implementing the standards and instead "adds nuance to growing fears that market-based logics dominate modern education policy" and forces political parties against each other (2019). Consequentially, the CCSS has grown with political views embedded within it, hindering the potential success of the standards by bringing political tension and instability into the classroom along with the policy itself.

In each social group above, any positive sentiment toward the Common Core is largely subjugated by negative attitudes and reactions. It is easy to assume that the initiative, considered here to be strictly a technological tool for educational development, would function consistently in a school system independent of the opinions people impress upon it. However, the evidence presented in this paper nullifies that mentality and reveals that co-production is a key factor that must be considered when assessing the success of the CCSS. The technology behind the Common Core State Standards cannot be separated from the meaning and values assigned to it by any social group with whom it interacts. Policymakers place a controversial political lens on education, which encourages society to form opinions on the debate without full consideration of all facts. Media spreads this information to parents, teachers, and students, allowing them to develop preconceived notions that negatively affect the way they interact with the CCSS from the start. Teacher frustrations with the transition to a new curriculum and a new way of thinking permeates their teaching, even if unintentional. Therefore, to harness the potential improvements defined in the Common Core State Standards, specific steps must be taken to transform

perceptions of the CCSS in addition to gradual adjustments to the policy itself. Policymakers and administrators should work to ensure teacher access to CCSS-related material and support, develop programs to aid students who come from a disadvantaged background, present factually correct information about the CCSS to all parents, and ensure that information is readily available for any concerned members of the community. It must be noted that these solutions can be considered wicked problems within the context of the education system, as they are heavily restricted by confounding factors such as funding, strict educational guidelines, slow timelines, and other complexities. However, if improvements are made to shift sentiment of each social group to the fullest extent possible within these inherent limitations, the resulting positive interactions with the Common Core State Standards have the potential to establish the environment the initiative requires to be successful, and in turn, to positively transform the landscape of American education for generations to come.

This project was limited by the novelty of the Common Core Standards. The initiative has only been incorporated into education in the last decade and is thus very new to the field. Therefore, it is likely that many results of the studies explored in this paper are due in part to the newness of the policy, and it is possible that those studies may reach different conclusions as the Common Core begins to establish itself in the education community. Additionally, the project was largely limited by time constraints. With an abundance of existing literature and unbounded potential avenues for further exploration, there is more to garner from this research topic than could be completed in nine months.

Given more time, this project would largely benefit from an expansion of the scope of the utilized methods. Specifically, the research collected thus far would be strengthened with

additional evidence gathered from observing and surveying teachers currently working with the Common Core. In-class observation of teacher-student interaction as well as Likert-scale questions about daily successes or frustrations imposed by the CCSS would highlight the everyday impact of the initiatives in the classroom. Additionally, interviews with policymakers would provide insight about how the sentiments expressed by the public for which the policymaker serves influences his or her own opinions about the Common Core and consequently impact the way they vote on relevant laws.

Transforming CCSS Sentiment for Positive Change

Once the sentiment of key social groups is recognized as a significant contributor to the potential success of the Common Core Standards, steps can be taken to transform those perceptions to increase the success of the initiative. Positive change will come from the dissemination complete and correct factual information about the standards to as wide of an audience as they can reach within the limitations of the complex education system. Coupled with continued improvements to the discourse in and implementation of the Standards themselves, these efforts should form a positive feedback loop to provide a smooth transition for teachers and easy acceptance of new material by students. Ultimately, the results of this research aim to strengthen the American education system to set students up for success and ensure that the United States produces well-educated citizens and remains competitive in today's global society.

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