National Assessment Governing Board
Executive Committee
Meeting Summary
February 8 & 9, 2015
Washington, DC

Executive Committee Members: Terry Mazany (Chair), Susan Pimentel (Vice Chair), Lou Fabrizio, Rebecca Gagnon, Tonya Miles, Fielding Rolston.

Governing Board Staff: Cornelia Orr, Mary Crovo, Lily Clark.

NAEP's Innovation Ambition and Strategic Planning

Strategic Planning Framework

Chairman Mazany welcomed the Executive Committee to Washington, DC and invited members to begin framing the strategic planning process and timeline for the Governing Board. He began by recognizing that education is experiencing a period of great change driven by advances in technology, public sentiment toward testing, implementation of the Common Core State Standards, and new approaches to teaching and learning. To remain relevant and add value, the Governing Board must also change. To frame a vision for strategic planning, Chairman Mazany provided a presentation on innovation, a report from the Frameworks Institute that studied public messaging about education reform, and an updated outline of a strategic plan to be used as a starting point for discussion.

In a Power Point presentation, the Chairman provided the Executive Committee with a background on the misconceptions of innovation (such as great innovators work alone, you cannot study innovation, it takes lots of ideas and experiments to get one good innovation, and that you should "think outside the box"). The Chairman provided numerous examples from various parts of the world and different industries to prove the power of thinking holistically, working collaboratively, studying customers and stakeholders to understand their needs, using an iterative model to adapt designs, and relying on insights rather than instincts as the keys to successful innovation.

The Executive Committee discussed possibilities for NAEP's innovation ambition, topics in the national conversation surrounding assessment to be considered, and opportunities for the Governing Board to build on NAEP's existing resources and initiatives. The Executive Committee discussed the desire for the Governing Board to be a leading voice in the national conversations surrounding assessment. The Committee then identified opportunities for the Governing Board to consider incorporating into the strategic plan as it sets NAEP's innovation ambition for the next several years.

The Executive Committee's preliminary list included the following items, with the expectation that the Governing Board will further define and refine this list (through additions, deletions, and editing) at its March 2015 Board meeting:

- Assessment policy and practices
    - Consider the value and future of the NAEP Long-term Trend assessment (e.g. possibly incorporating the Long-term Trend into the Main NAEP assessments).
    - Improve the meaningfulness of NAEP's achievement levels to the public (e.g. benchmark against other tools, such as ACT/SAT and international assessments).
    - Pursue adaptive testing to provide more accurate and more efficient measurement at all points of the achievement distribution.
- Communications incorporating key findings of effective communications
    - Increase public awareness of NAEP and NAEP innovations (e.g. TEL and reports) among various stakeholders (e.g. parents, teachers, and policy makers).
    - Inform parents and the public about the meaning of assessment results (e.g., assessment literacy).
    - Reframe NAEP reporting to focus on high expectations for all students and highlight where progress is being made, rather than focusing on achievement gaps.
- Research
    - Enhance the impact of NAEP reporting by increasing the use of contextual variables.
    - Create a more systematic approach for determining NAEP's research agenda.

The Executive Committee noted the importance of maintaining NAEP's position as "the most trusted and trustworthy" source in all of its endeavors. Members further noted that the strategic plan must be sensitive to the statutory authority of the Governing Board and data privacy concerns. In addition the Board should consider opportunities for streamlining or eliminating certain activities in addition to adding new initiatives.

NAEP Looking Ahead: Leading Assessment into the Future

Peggy Carr, Acting Commissioner for NCES provided a detailed status report on the implementation of recommendations of *NAEP Looking Ahead: Leading Assessment into the Future*, including research into new technologies, reporting, and assessments. The work of NCES provides an important context for the Governing Board to consider as it defines strategic priorities. For instance, this study recommends that NAEP reconceptualize its frameworks to be more dynamic by making minor adjustments over time while maintaining trend. However, the details of this recommendation and its potential impact for NAEP would need to be clarified before the Governing Board could decide to adopt this strategy.

Strategic Planning Process and Timeline
The strategic planning process will be led by the Executive Committee, which aims to complete the final draft of the strategic plan for consideration by the full Board at the August, 2015 Governing Board meeting.

To prepare the Governing Board to discuss the strategic plan at the Saturday, March 6, 2015 Governing Board meeting, the Chairman asked each Committee Chair to allot up to 15 minutes of time during their Friday, March 5 Committee meetings to respond to the February 8-9 Executive Committee meeting summary minutes and provide input on the innovation ideas proposed.

The Governing Board will ultimately select several priorities for its innovation ambition. These priorities set forth in the strategic plan and approved by the Governing Board will be embedded into the regular work of the Governing Board. It is expected that the Governing Board will develop and implement the plan primarily through its existing standing committees, which may be tasked to research, study, or draft recommendations for specific areas within the strategic plan.

It was also noted that additional research may be necessary to better understand certain options for NAEP, prior to finalizing the strategic plan.

The Executive Committee discussed the value of engaging with an external group to facilitate the development and drafting of the Governing Board's strategic plan, although no specific individuals or organizations were identified for consideration.

Assessment Schedule Discussion/Recommendations

The Executive Committee commented on proposed changes to the NAEP Schedule of Assessments, as a precursor to further discussion and action at the March 2015 Governing Board meeting. The discussion included the value of NAEP assessments in a broad range of subjects and at multiple grade levels. The Executive Committee made recommendations regarding the presentation of the assessment schedule to improve readability and to be more comprehensive of NAEP assessments (e.g. by including Trial Urban District Assessment subjects and grades).

I certify the accuracy of these minutes.

February 19, 2015

Terry Mazany, Chair

Date

Putting it Back Together Again:

Reframing Education Using a Core Story Approach
A FrameWorks MessageMemo

Supported by the Nellie Mae Education Foundation, Ford Foundation, Raikes Foundation, C.S. Mott Foundation, Hewlett Foundation, NoVo Foundation and W.K. Kellogg Foundation

NOVEMBER 2014

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Introduction

> "Nowhere in 'humpty dumpty' did it say he was an egg. Maybe your inability to think outside of what others have taught you is what's keeping you from putting him together again."
>
> *–Darnell Lamont Walker*

How do Americans think about education — where and when it takes place, how it happens, how we know it happens, what promotes it, what impedes it, and with what consequences for society? Education reformers must make many assumptions about the various ways that the "pictures in people's heads," or cultural models,[1] drive the public's answers to these questions when they engage the public in important conversations about everything from education funding formulas to common core standards. This MessageMemo starts from the premise that public understanding of the public purpose of public education should not rely on guesswork. A comprehensive assessment of public thinking, and the key channels that inform it, is necessary if our society is to make responsible decisions about the future of this key democratic infrastructure. Moreover, the cognitive and social sciences offer education reformers evidence-based strategies for deepening public appreciation for the often complex and abstract processes that constitute education policy and decision-making. By using research to identify what is "core" to a core story of education, education communicators can lay the foundation for more informed and engaged public thinking.

In these pages, we summarize research the FrameWorks Institute conducted for a consortium of foundations, originally composed of the Nellie Mae Education Foundation, and the Ford, Hewlett, W.K. Kellogg, C.S. Mott, NoVo and Raikes Foundations. These foundations asked FrameWorks to conduct a series of studies designed to: (1) document the conceptual challenges in the American public's understanding of education and education reform, and (2) prescribe communications strategies that increase support for evidence-based programs and progressive policies. This project was informed by several earlier inquiries into how Americans think about education, supported by the Nellie Mae Education Foundation and the Lumina Foundation for Education; and how digital media and learning is conceptualized, funded by the John D. and Catherine T. MacArthur Foundation.[2] The Noyce Foundation has recently joined the project, extending the inquiry to science, technology, engineering and mathematics (STEM) education in formal and

informal learning environments.[3] An earlier MessageMemo — *Talking About Skills and Learning*[4] — focused on one discrete aspect of the inquiry, and complements the more comprehensive document represented here.

To build a comprehensive Core Story of Education, FrameWorks' mission is threefold: (1) to design and test specific communications tools that help clarify public thinking about key topics, or "subplots"; (2) to establish the *public* benefits of education; and (3) to build an overarching narrative into which these pieces synergistically fit. In this vision, the Core Story derives its power both from its constituent tools, including values and metaphors, and the way those tools are embedded in a more comprehensive and coherent narrative structure. The goal is to produce a powerful story of education with built-in strategic subplots that can reorient and restructure how Americans think about education and education reform. A Core Story of Education provides a shared communications foundation replete with tested, reliable tools that advocates can use to craft common messages about education and reform, and then pivot to more specifi messages about assessment, teacher training, educational disparities and other focal priorities.

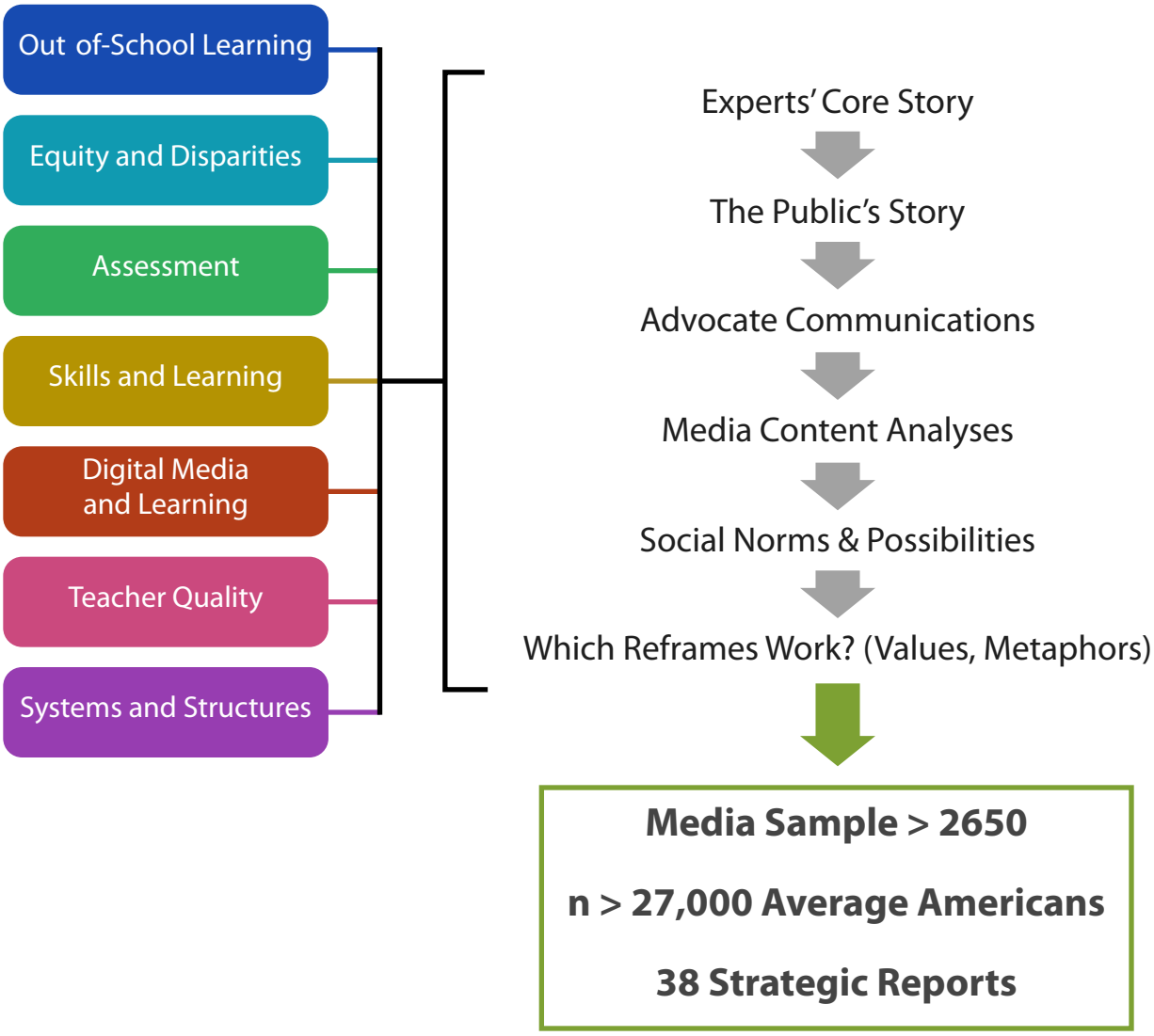
In taking on this challenge, we are admittedly swimming upstream. The domain of education reform and advocacy is a many siloed thing, with separate factions interested in assessment or disparities but perhaps little interested in teacher professional development or learning space and time. Like Humpty Dumpty, the disconnected fragments of the education conversation often appear to outsiders as simply a broken thing, with little possibility for putting the system together again. While FrameWorks' researchers pursued each separate domain across research methods, we did so admittedly with the recognitio that, at some point, we would have to put the pieces back together again if we were to prove successful in engaging the public in re-imagining and re-engaging with the system. The structure of this MessageMemo mirrors that process of deep analysis of discrete topics within education reform, followed by observations across these topics and, finally, the construction of a core story that unites the seemingly disparate elements.

In choosing this architecture, we hope to demonstrate to education reform communicators the importance of seeing the challenge whole, and appreciating the strong entrenched parts of the public's default narrative that attach to virtually any education topic and undermine meaningful solutions. Put simply, when you engage the public on the topic of education, you do not get to choose what quadrant of the education policy debate you will evoke. Rather, the entire "swamp" of internalized narratives is activated. Similarly, even when promoting a seemingly bounded policy reform, incomplete information will invite the

public to fill in unspecified parts of the story with their existing understandings of what education is good for, who gets ahead, and why and how learning happens. The strategic education communicator, then, must take a wide-angle shot of the landscape of public thinking about education.

The research base informing this comprehensive MessageMemo is voluminous,[5] resulting in 38 research reports and comprising more than 28,000 informants. It includes both qualitative and quantitative methods as defined by the Strategic Frame Analysis™ approach.[6] All reports are published at http://frameworksinstitute.org/k-12-education.html.

CORE STORY OF EDUCATION: Major initiative to reframe K-12



This MessageMemo charts a course through the dominant patterns of reasoning employed by the public, identifies the major challenges for communicators, and recommends how communications may be redirected to improve public understanding. It is organized as follows:

I. Charting the Landscape

We first **Chart the Landscape** of public thinking by providing a description of the dominant patterns of thinking that are chronically accessible to Americans in reasoning about assessment, learning environments and times, educational inequity, structures of education, the goals of the education system, and the communications implications of these dominant models.

II. Gaps in Understanding

We then identify the **Gaps in Understanding** between experts and ordinary Americans — features that bring into relief the specific locations where translation is needed if expert knowledge is to become accessible to the public in understanding and reasoning about assessment, learning spaces and times, disparities, and the goal of education.

III. Redirections

We then provide an outline of **Redirections**, research-based recommendations that comprise the Core Story of Education, and represent promising routes for improving public understanding of learning, education and education reform.

IV. Traps in Public Thinking

We end with a cautionary tale of the **Traps in Public Thinking** that must be avoided if reframing is to succeed.

I. Charting the Landscape: An Updated and Expanded Map of How Americans Think About Education

The mental landscape on education and education reform presents a well-worn terrain, with many pathways carved out over time in public thinking. In this section, we discuss the most prevalent and highly shared paths, or "cultural models," that ordinary Americans rely on when asked to think about several different topics related to education, including teachers and teaching, definition of skills and skill acquisition, education assessment, learning space and time, disparities, and the purposes of education. These patterns in public thinking and understanding constitute the challenges that the prescriptive reframing research must address. Education reform communicators should become familiar with these default patterns of understanding in order to accurately anticipate what they are up against and what they must overcome when they engage the public about education and education reform.

FrameWorks uses the heuristic of a "swamp" of cultural models to underscore the fact that people have recourse to a vibrant ecosystem of culturally specific and shared perspectives when they approach any given topic. This ecosystem is comprised of dominant and recessive ways that most Americans make sense of new information about that topic. In the following illustration and in the sections that follow, we document the most common cultural models that people bring to each specific aspect of education.

What's in the swamp of...

EDUCATION?

The System, Its Goals and Reform

- The Tangible Triad
- Education = Individual Financial Success
- Good Teacher = Caring Teacher
- Fatalism
- Reform = Backward Facing
- Teachers' Unions Block Solutions

Learning Space and Time

- Compartmentalized Learning
- It Worked for Me.
- Rechargeable Attention Battery.

Skills and Learning

- Skills are a Commodity
- Skills and Learning = Mastery of Content
- Learning Happens Naturally
- Learning Takes (Hard) Effort.
- Go Back to the Basics

Assessment

- Assessment = Standardized Tests
- Assessment is Straightforward
- Grades motivate.
- Assessment = Fair and Unfair

Equity

- Disparities = Disadvantage.
- Wealth Matters Most
- Race = Wealth
- Race = Culture
- Inner City = Bad / Suburb = Good.
- Fatalism
- Equality of Opportunity and Access

Default Cultural Models of The System, Its Goals and Reform[7]

As one might expect, the public spends little time thinking about the education system or its purpose. When asked to do so, several important cultural models come to mind; these are extremely important to consider, as they structure much of the more issue-specific thinking on everything from assessment to equity.

1. ***The Tangible Triad.*** Americans struggle to see any actors in the education syste beyond what we call "The Tangible Triad": Teachers, parents and students. Each of these actors is defined by their assumed motivation. Teachers are deemed successful if they "care" about their students and eschew financial and professional concerns. Parents and students are measured by their ability to exert willpower and discipline in the pursuit of education, which is defined as "hard," or in conflict with one's pursuit of pleasure.

2. ***Education = Individual Financial Success*.** Broader societal goals for public education — such as public health or citizen participation — are rarely mentioned by the American public. Individual success and competition are cited often, however, and often coupled with appeals to global competition, or the idea that American education is a key factor in determining whether the country can "beat the Chinese." Ironically, this relatively common way of thinking about education does not lead people to prioritize education, or to endorse reforms associated with the 21st century skills experts identify as necessary for American workers to be able to engage globally.

3. ***Good Teacher = Caring Teacher*.** The singular goal expected of teachers within the system is self-sacrifice. A clear dichotomy is drawn between teachers who "do it for the kids" and those who "do it for the paycheck." This binary distinction draws suspicion of those teachers who assert a need to collaborate or seek professional development, as these are viewed as distractions from the primary enterprise of direct caring for students.

4. ***Fatalism*.** Education reform is seen as a nebulous and suspicious activity, with little accountability or practical results. Due in part to education's association with government, recurring themes of crisis and reform are viewed with the same degree of fatalism and cynicism that Americans bring to other public sector reforms. Once this cultural model takes hold, people tend to draw from their knowledge of business models — elevating competition, individualizing success, monetizing

outcomes — to inform their understanding of solutions that would improve learning.

5. ***Reform = Backward Facing.*** When asked to explain specifically why education reform might be needed, Americans fall back on a widely held belief that technolog has destroyed students' abilities to focus, concentrate, study and learn. Technology, defined narrowly as entertainment, is viewed as a distraction from the "hard work" of learning. Furthermore, Americans bring a strong sense of nostalgia to the idea of education reform, and assert that the only way forward is to "go back to the basics." An emphasis on rote learning and a narrow curriculum are thus viewed as positiv antidotes to an education system saddled with too many goals, topics and distractions.

6. ***Teachers' Unions Block Solutions.***[8] Another "reform" that is top-of-mind for many Americans is the perceived need to diminish the power of teachers' unions, which are viewed as distracting teachers from their primary mission of "caring," with issues that put paychecks before people.

Default Cultural Models of Skills and Learning[9]

The public has little exposure to, much less practice with, connecting micro-processes of education — such as skills acquisition — with macro or structural education issues. Given this, people's definition of skills, and their understanding of the process by which skills develop, is greatly influenced by a set of fairly obstinate cultural models:

1. ***Skills are a Commodity.*** Children must acquire them in order to be successful individuals. The fact that some can afford more or better varieties of education, and others cannot, is seen as a natural part of the way the world works. Societal consequences are rarely considered.

2. ***Skills and Learning = Mastery of Content***, not outcomes of a learning process. Like child development more generally, the process by which children develop skills is largely a "black box," in which some combination of internal factors — such as confidence, drive and talents — are affected by teaching and parents in a nearly automatic, yet invisible, manner.

3. ***Learning Happens Naturally.*** Children are assumed to be the passive recipients of developmental content, akin to sponges that absorb what is around them or containers that must be filled with content.

4. ***Learning Takes (Hard) Effort.*** School learning is assumed to be "hard," and if it's not, it's not learning. Concern for student interest and engagement is subsumed by more developed ways of thinking about learning as something achieved by duress.

5. ***Go Back to the Basics.*** Americans share a powerful assumption that education is built in a linear and hierarchical way in which the "basics" — often defined as the "3Rs" — are prerequisites to all future learning. By extension, if learning does not happen, the solution is not new pedagogical tools but, rather, a "return" to the basics.

Default Cultural Models of Assessment

While tests and testing are omnipresent in the educational environment, and the debate over standardized tests is a strong theme in media coverage of education issues,[10] FrameWorks' informants demonstrated a limited understanding of alternatives to the status quo, even as they expressed some frustration with it.

1. ***Assessment = Standardized Tests.*** For most members of the public, the topic of educational assessment immediately and powerfully brings to mind summative testing, and, even more specifically, standardized testing. This strong "top of mind" association crowds out any consideration of alternatives.

2. ***Assessment is Straightforward.*** Americans generally assume that all assessments *are* a direct post-facto measure of that which they are designed to measure: Risin test scores mean increased learning while declining test scores mean less learning. The public generally does not appreciate that assessment instruments serve multiple purposes, and some instruments might not be well suited to serving the goals to which they are applied. Moreover, because assessment is viewed as relatively simple and straightforward, it is easy for the public to assume that advocates who critique assessment policies must be doing so for self-interest reasons.

3. ***Grades motivate.*** Grading systems are perceived by the public to function as a necessary and effective means of incentivizing student achievement. People fail to

consider how grades often distort and depress motivation, and distract from learning. The idea that grades serve a positive motivational function is consistent with a broader acceptance of competition in American society, and with the idea that each individual must learn to compete in the marketplace of skills and knowledge.[11]

4. ***Assessment = Fair and Unfair.*** The public toggles between two views of fairness when it comes to assessment. According to one view, standardized tests are a "fair" and objective way to differentiate between individual students' skills and abilities, especially in the context of college placement. At the same time, the public critique standardized tests by asserting that *"every child is different,"* or that not every child is a good test-taker, and that assessments should account for different learning and testing. From this perspective, standardized tests are *not* "fair."

Default Cultural Models of Learning Space and Time

Space and time are not part of the American public's default perspectives about learning. Drawing from many of the same cultural models enumerated above, people focus primarily, if not exclusively, on students' and teachers' internal characteristics as key determinants of learning outcomes, and assume that learning happens naturally. When asked more explicitly and directly about the effects of space and time on learning, Americans access another set of cultural models, explained below.

1. ***Compartmentalized Learning.*** For the American public, there are different types and ways of learning, each of which requires its own discrete time and space. Americans consider real-world, hands-on learning to be extremely important, but not necessarily something that could (or should) be employed in school. These skills should be learned outside of formal education because they are distractions when brought into the classroom, and school instruction is for learning the basics. In other words, what happens *in* school needs to be *insulated and kept separate* from the outside world if it is to be successful. Reasoning with this model, the public resists calls to intersperse, combine or blend in- and out-of-school learning.

2. ***It Worked for Me.*** Americans draw on powerful senses of nostalgia and personal experience in conceptualizing classroom space and time — with the teacher at the head of the class and student desks organized in rows, and where there is plenty of afterschool and summer free time. Americans tend to resist calls to expand education time and change educational spaces, especially when described as a

revolutionary departure from current practice, in part because they compare these calls for change to their own experiences with the system. From this nostalgic vantage point, Americans reason that, "It worked for me, so why would we change it now?"

3. ***Rechargeable Attention Battery.*** Students are understood to have limited "attention spans" that "run out," and have to be "recharged." That is, learning happens best in short spurts, after which the attention battery needs to be recharged through activities that do not require attention or focus — like recess, lunch, sports, "closing your eyes," "taking a nap" or "just staring off into space and daydreaming." Learning time should therefore be organized in *short* bursts of *intense* focus and attention on *difficult* content, interspersed by periods that require *no* focus or attention.

Default Cultural Models of Equity and Disparities

Americans draw upon a rich and practiced set of cultural models to explain differences among individuals and groups, applying these in ways that can be highly problematic as explanations for differences in educational outcomes.

1. ***Disparities = Disadvantage*.** The public's "top of mind" associations with the concept of "disparities" are confined to those people and groups who are in disadvantaged, difficult or adverse circumstances. By focusing on genera disadvantage rather than *differences* in resources, conditions and outcomes between groups, the public is unable to grasp the comparative aspect of the term.

2. ***Wealth Matters Most.*** Once directed to thinking about disparities in comparative terms, the public focuses on differences in wealth among students, and on archetypal extremes of either great wealth or dire poverty. When thinking through this model, educational outcomes are determined by family behaviors, values and priorities, or a *Family Bubble* perspective. When the *Family Bubble* model is paired with the *Wealth Disparities* model, the public cannot appreciate the ways that poverty shapes factors both outside and inside the education system, which then contribute to a wide range of educational outcomes.

3. ***Race = Wealth*.** The most dominant model for thinking about race is to conflate racial groups with class: African Americans are considered poor and whites are considered wealthy. In other words, race is reduced to class and, with that

assumption in place, the public defaults to the limited, but associated, models for thinking about how wealth influences school performance.

4. ***Race = Culture*.** Members of the public ascribe differences in educational outcomes between African Americans and whites to how much "value" either group's "culture" places on education. This is distinct from participants' assumptions that lower-class people simply do not have the time to dedicate to their children's education. In this *Race = Culture* model, participants explained education disparities as largely cultural: African American families just don't "care" as much about education. This equating of race as culture was also evident in talk about how certain other racial *groups* hold cultural beliefs that highly value education.

5. ***Inner City = Bad / Suburb = Good*.** When thinking beyond the *Family Bubble*, the public focuses on schools — specifically "inner city" versus "suburban." Inner city schools are typically considered to be of uniformly poor quality because they lack sufficient funds and basic resources, are overcrowded, and attract bad teachers. Furthermore, the public imagines inner-city schools as plagued by violence, so teachers and administrators must focus all their attention on disciplining students. In contrast, suburban schools are idealized. As with the *Wealth Matters Most* model, the public lacks understanding of the causal mechanisms by which disparities in *place* translate to differences in *outcomes*. Instead, the public thinks of disadvantaged places as *naturally reflective* of disadvantaged people.

6. ***Fatalism*.** Americans believe inequality in educational outcomes is inevitable, and are therefore very fatalistic about addressing it. Education, according to the public, is a competitive arena, where some children "naturally" do better than others, and some parents and communities choose to prioritize education more than others. Thinking through this model, disparities in educational outcomes are just "one more problem" that is beyond meaningful reform.

7. ***Equality of Opportunity and Access*.** Although they are far less practiced in thinking this way, Americans are able to consider education as a public good, and to appreciate that there are collective benefits from providing every child high-quality educational experiences. When Americans are able to think about education through this lens, they focus on the values of equal opportunity and open access, especially when reasoning about why educational inequity should be addressed.

In sum, the story that the public has internalized demonstrates remarkable narrative cohesion — with familiar plot lines, "bad guys" and solutions. When that story is reassembled beyond the discrete domains of assessment, disparities, and learning space and time, it looks something like this:

The Untranslated Core Story of Education
What is at stake and why should I care?
A Failing System
Who is involved and how does it work?
The Triad ***Willpower*** ***Quality Education = Caring Teacher***
When and where does it happen?
Compartmentalized Skills
What threatens the outcomes?
Unions ***Teachers/Students/Parents Who Don't Care***
What are the outcomes, how do they happen and why do they matter?
Willpower ***The Basics*** ***Passive Learning***
How do we know whether the outcomes have happened or not?
Standardized Test ***Financially Successful Individuals***
How do we improve education and learning?
We Can't ***Get Back to the Basics*** ***Make the Triad Care More*** ***Make Education More Like a Business***

II. Gaps in Understanding

Gaps in understanding are those places where the cultural models employed by the public to think about an issue differ significantly from experts' understanding of the same issue. As such, they represent strategic opportunities for reframing in order to bridge gaps between expert and lay understandings. Moreover, by comparing and contrasting public and expert views, communicators can evaluate public pronouncements and prioritiz specific conceptual challenges. We enumerate the major gaps around education and education reform below. In the subsequent section, we assign specific frame elements — values, metaphors, etc. — to fill what researchers deemed the most important communications challenges.[12]

Gap No. 1: The Benefits Gap. Experts and advocates see education as critical to any society's future prosperity and stability, contributing to both its financial and civic well-being. In contrast, the public associates the benefits of education narrowly with individual financial success. Relatedly, experts understand disparities as a collective concern — because equal opportunity is a moral imperative, and because helping all children gai skills allows them to contribute to the nation's prosperity and democracy. The public sees disparities as only affecting individuals and their occupational and financial success.

Gap No. 2: The Process Gap. For experts, learning is a process of interaction, both between students and their environment and among various disciplines and phases of development. For most people, however, learning is seen as occurring along a linear continuum, with mastery of basic content such as the 3Rs as a foundational prerequisite to all successful learning. This, then, creates a dynamic in which reform efforts must essentially "move backward" to address the foundational failures of the system, instead of innovating instruction.

Gap No. 3: The Compartmentalization Gap. Experts argue that rethinking the school day and year can create room for student-centered learning, a more well-rounded curriculum, and the potential to address educational inequity. Members of the public explain that school learning belongs *in* school, and that time needs to be maintained for other kinds of learning to happen out of school. Extending school time means that children would have less time for real-world learning and to "just be kids." They viewed afterschool and summer time as necessary "recharge" periods, where students get the anti-learning time they need in order to be effective in-school learners. And, while experts advocate for blurring the lines between schools and communities, the public thinks of school as a bounded place

where a distinctive kind of learning happens that should be set apart from the "type of learning" that happens in out-of-school settings.

Gap No. 4: The Teachers and Teaching Gap. Experts emphasize the importance of teacher training in both the quality of a teacher and in improving education in America. They also see a major role for teachers' unions in the development and maintenance of this professionalism. By contrast, the public operates under the assumption that what really matters for quality teaching is an individual's natural or innate "caring." This gap between understandings of teacher quality represents a truly fundamental problem in communicating about what makes a good teacher, what teachers do, and what these professionals need to be effective.

Gap No. 5: The Tests are Good and Tests Motivate Gap. Experts explain that an expanded use of formative assessment procedures and a reduced reliance on summative assessments will positively affect student motivation. The public sees summative assessment, especially grades, as a necessary incentive that motivates students and allows for differentiation and competition. Unlike experts, the public does not see the harmful effects of summative assessment on motivation, neither for those who do poorly nor for those who do well. Focusing on the grade as the goal rather than the learning as the goal is not viewed as a problem. And, while experts argue for a wider spectrum of measurement approaches and tools, public thinking is narrowly focused on assessment as standardized tests. Even when there is public discomfort with testing, they do not question the validity of assessment procedures or the practice of using one instrument to assess multiple and widely varying goals and outcomes. And even while critiquing, the public can think of few alternatives.

Gap No. 6: The Disparities are Unfortunate, Try Technology Gap. Experts locate the root causes of educational disparities well outside the classroom — in socio-economic differences, stereotypes and residential segregation patterns, to name just a few sources of inequality. The cumulative effect of these factors is that students who live in economicall disadvantaged communities and have the greatest social, behavioral and cognitive learning challenges are often concentrated in a subset of schools that are least equipped to meet their education needs. The public is sympathetic, but has little causal understanding of how disadvantage leads to disparate educational outcomes. Relatedly, experts envision multiple reforms at the policy level that would reduce disparities, most of which target lower-performing schools with more resources. They also explain that environments outside school walls must be improved, especially in a child's early years. There is only one dominant systems-level solution that is broadly shared among the public when thinking

about addressing education disparities: the idea that all schools and students should have access to computers. Beyond that, there is a general sense of *Fatalism* that the challenge of addressing education disparities, and improving educational outcomes more generally, is out of reach.

Gap No. 7: The Reform Gap. Experts understand that reforms to the education system are possible, practical and expedient, part of the standard process by which a society updates its public structures. Most are excited by the possibilities of rethinking and remaking the system to better fit the country's future. The public is often entrenched in an assessment of education as yet another intractable system that eludes improvement year after year Reforms appear too ambitious to be feasible and lack evidence of impact, furthering public cynicism.

III. Redirections

A new narrative is required to redirect the public toward more productive ways of thinking about education. This narrative must replace the actors, plot-lines and solutions that we identified in the public's dominant story with powerful alternatives that better align with experts' and advocates' perspectives. In putting the Core Story of Education "back together again," FrameWorks relied on two key strategic frame elements: *Values* and *Explanatory Metaphors*. Matching tool to task, we used these frame elements to fill in important parts of the narrative by drawing upon what each element does best.

Values are enduring beliefs, which orient individuals' attitudes and behavior. Effective values form the basis for social appeals that pull audiences' reactions in a desirable direction. Within the context of the Core Story narrative, appealing to specific values can establish the collective purpose of education, and help people see that more is at stake than their own (child's) financial success. In our extensive experimental survey research, we found several values that proved to productively reorient respondents to key aspects of education policy. As can be expected, no one value was capable of movin support on all the dimensions of the Core Story of Education, but certain values proved consistently potent in making the shift from education as a private to a public good, one of the key challenges revealed in the research.

Explanatory Metaphors are linguistic devices that lead people to think and talk about something they were not previously proficient in thinking or talking about. By comparing an abstract idea to something concrete and familiar, metaphors make something that is hard to understand easier to understand. Good Explanatory Metaphors do not become the topic of discussion, but provide the grounds for further discussion. FrameWorks tests metaphors for both their fidelity to the expert concept and for their usability in people's attempts to communicate with each other. These affordances have substantial empirical support in the research literature.[13] Within the Core Story, Explanatory Metaphors were developed to ground a new understanding of how a fundamental process, phenomenon or mechanism works — what causes what, with what effects.

Based on the research FrameWorks has conducted, we offer the following framing elements and strategies as fundamental cognitive building blocks in the new Core Story of Education:

The Translated Core Story of Education
What's at stake with education reform?
Future Preparation *Progress* *Human Potential*
How should education work?
The Educational Orchestra *Pollination Points*
What are we trying to Improve?
Weaving Skill Ropes *Cooking with Information* *Information Drivers* *Dashboard, Windows and Mirrors*
What threatens educational outcomes?
Lack of Fairness Across Places *Spotty Charging Stations* *Lack of Scaffolding*
How do we improve education and learning?
Ingenuity *Pragmatism* *Remodeling Education*

What's at Stake with Education Reform?: Move Beyond Individualism

Communicators need to steer the public away from default individualistic understandings of the education system. This set of values powerfully orients audiences to the collective responsibility for, and collective benefits of, education reform.

A. Future Preparation

The *Future Preparation* value communicates the idea that getting ready for the future is a matter of collective preparation. It consistently produced substantive and highly statistically significant effects across the experimental surveys we fielded for this project. In the first experiment, *Future Preparation* increased respondents' support for policies across a variety of dimensions of education reform. We found that when survey respondents were given a choice between two opposing policy directions and asked to indicate their support for one over the other, they were more likely to choose progressiv education reforms after exposure to *Future Preparation*. In a later study, we emphasized the value of *Workforce Preparation* and found that this had strong and statistically significant impacts on policies related to skills and learning.

> ***Future Preparation*:**
> "We need to be sure that future leaders have the skills required to tackle the problems of tomorrow."

B. Progress

The value of *Progress* reminds the public that our country can only move forward when we make a collective investment to modernize our public infrastructures, including the education system. In an experimental survey, *Progress* performed particularly well in lifting support for skills and learning policies.

> ***Progress:***
> "Education reform is about movin forward toward our shared goals — updating what we do so that it is in keeping with the times."

C. Human Potential

The *Human Potential* value focuses audiences on the need for the education system to expand our collective pool of talent, and to ensure that all children have the opportunity to develop to their full potential. The value performed well on several dimensions of education reform, but it was particularly powerful in two challenging domains — disparities and assessment reform.

> ***Human Potential:***
> "We need the talents and contributions of all learners to be available to our communities."

How Should Education Work?: Answering the Who, When and Where Questions

Progressive education reformers cannot argue for new education policies by simply saying the current system is broken. Instead, they need to give the public a sense of what a well-functioning system will look like and how it will work. The frame elements we describe here give communicators tools to expand public discussion of who makes up the education system, when learning should happen and where it should take place. And, most importantly, the metaphors we offer below let communicators talk about the coordination among the varied actors, spaces and places that are critical for meaningful reform.

A. The Educational Orchestra

In order to get more actors into the picture and create a sense of systems that need coordination, FrameWorks developed the Explanatory Metaphor *Educational Orchestra*. It was designed to accomplish the following tasks:

- Break open the *Tangible Triad* — or the idea that parents, teachers and students are the only important actors in the education system.
- Explain that education is a system that encompasses many actors and resources.
- Point out that a well-functioning system requires coordination among a range of actors involved in the education system.

Educational Orchestra:

"School systems are like orchestras with many specialized players. To be in harmony, all the players must be in tune and highly skilled."

In both quantitative and qualitative testing, this metaphor showed powerful effects on people's ability to think more expansively about the parts and players that contribute to the overall functioning of the education system. With *Educational Orchestra*, a diverse range of informants could readily see that the functioning of the education system relies on a wide range of individuals and groups. This Explanatory Metaphor showed strong effects in pulling thinking away from the *Tangible Triad*, *Teachers as the System*, and *Willpower* cultural models — all models that drastically narrow the range of reform options that the public finds "easy to think."

B. Pollination Points

This Explanatory Metaphor was designed to bridge several of the gaps between public and expert understanding about learning space and time. It can help communicators accomplish the following tasks:

- Explain how school space and time can be more flexible through integration of in- and out-of-school learning.
- Communicate the idea that learning is more engaging and effective when children learn in a variety of places and at different times.
- Forefront considerations like classroom design, school design and schedules (fo both students and teachers) in curriculum development and overall pedagogical strategy.
- Explain how the education system needs to keep up with changing social and economic conditions (e.g., summer breaks were designed for agricultural societies).
- Inoculate against several pernicious cultural models, including compartmentalize learning, consumerist education and the *Tangible Triad*.

Pollination Points:

"Learning is like pollination, with ideas. Learners need access to a lot of pollination points in order to engage their attention and grow their motivation."

FrameWorks' qualitative research demonstrated the strong effects of this Explanatory Metaphor. The metaphor successfully opened discussions about out-of-school learning, conversations that were difficult to have without the metaphor. After a brief exposure to the metaphor, respondents in FrameWorks' persistence trials spontaneously generated the importance of hands-on learning, practical learning opportunities (both in and out of school), field trips, and exposure to experiences and people from a wide range of cultural and linguistic backgrounds. People also talked about how schools are embedded in communities, which opened up the boundaries/borders of the school. FrameWorks' informants focused on what students "bring to school," not only in terms of their individual make-ups but also social environments, which often led to the opinion that schools should be better able to accommodate all of the things which students "bring to school."

What Are We Trying to Improve?: Defining Outcomes, How they Happen and How to Measure them.

Progressive education reformers are advocating for a range of policies and new models of education to improve educational outcomes — from student-centered learning to new modalities of assessment. Building public support for these policies requires that communicators *explain* how teachers teach and how students learn. Because these are activities that are fundamental to the human experience, communicators often take this part of the story for granted. The Explanatory Metaphors described below help communicators teach the public about teaching and learning.

A. Weaving Skill Ropes

The *Weaving Skill Ropes* metaphor directly communicates about skill development as a critical educational outcome. This metaphor is highl effective in addressing skill identification, skill acquisition processes and inter-relationships among skills. It helps communicators accomplish the following tasks.

> ***Weaving Skill Ropes:***
> "Learning is about the brain weaving skills together to form strong skill ropes."

- Define skill development as an active process that occurs in a developmental context.
- Highlight that skill transfer is an important skill in itself.
- Communicate the interdependence and mutual importance of cognitive, social and emotional skills.
- Inoculate against passive conceptions of learning, and the notion that mastery of "the basics" is the most important.

Weaving Skill Ropes emerged from FrameWorks' iterative and multi-method research process as the most effective metaphor in structuring public talk about skill developmen and use. The metaphor enabled people to see that skills are dynamic, that learning is lifelong, and that the best way to create positive learning outcomes involves weaving social and emotional skill development into cognitive skill development. The metaphor was particularly useful for prescribing learning as a deliberate activity that occurs best in certain contexts. And it powerfully shifted public thinking away from modeling skills as linear and hierarchical, and toward modeling them as integrated and mutually reinforcing.

B. Cooking With Information

Cooking With Information is another Explanatory Metaphor that helps Americans think about what constitutes effective learning and teaching, and highlights digital media as a critical learning tool. It was designed to achieve the following communications tasks:

- Reinforce public understanding of the efficacy of hands-on, experiential, experimental and mentored learning.
- Provide a rich model of the most fruitful relationship between students and teachers by focusing on learning processes as well as outcomes.
- Open space for people to think about the contributions of digital media to learnin without direct reference to "digital media and learning," which pulls in unproductive associations with technology (e.g., technology as dangerous or distracting).
- Inoculate against passive models of learning.

Cooking with Information:

"Children have to know how to use information the way cooks use ingredients. This involves selecting, evaluating and combining the ingredients in a hands-on, exploratory way."

The strengths of *Cooking With Information* come mainly from deeply modeled associations with "cooking." Qualitative and quantitative research showed that the *Cooking With Information* Explanatory Model helped members of the public understand that learning is a hands-on activity that requires both following recipes and space for experimentation. It also gave people a concrete understanding of learning as both a process- and outcome-oriented activity. Members of the public were able to think in more productive ways about digital media with this metaphor because it became another "tool" in a student's "learning kitchen."

C. Information Drivers

Information Drivers was another Explanatory Metaphor that emerged from our research on digital media and learning, and was designed to accomplish some of the same tasks enumerated for the *Cooking With Information* metaphor. Along with solidifying public appreciation for hands-on and experiential learning, *Information Drivers* was particularly effective in communicating the importance of guided mentoring in learning.

Information Drivers:
"Today's students are on an information journey, and they need the kinds of experiences that let them get their hands on the wheel."

The *Information Drivers* metaphor is powerful in the domain of digital media and learning because it clearly communicates that children need to learn how to use technology, and that learning requires mentorship by a skilled adult. It also forefronts problem-solving as a critical skill that needs to develop in the learning process.

D. Dashboard, Windows and Mirrors

The *Dashboard, Windows and Mirrors* Explanatory Metaphor broadens public definitions of assessment, and understanding of how it works in learning contexts. The metaphor was designed to address the following framing tasks:

- Expand people's notion of assessment beyond high-stakes, standardized testing.
- Explain *how* direct assessment improves learning and teaching.
- Demonstrate the value of multimodal assessment.
- Illustrate how assessment can support collaboration and civic development.

Dashboard, Windows and Mirrors:
"Just as we need many different gauges, windows and mirrors as drivers, education needs a dashboard approach to assessment to provide multiple ways of monitoring and improving."

The *Dashboard, Windows and Mirrors* metaphor emerged as a clear winner among other candidate metaphors after a battery of qualitative and quantitative testing. People understand "the dashboard" as a cluster of multiple gauges or indicators, which helps them think about multiple types of assessment. Dashboards are a feedback mechanism that guides subsequent performance, and the public is able to transfer this understanding to the domain of assessment, especially formative assessment. In the metaphor, standardized tests are one gauge on the dashboard, but they do not constitute the entire feedback system. In this way, the metaphor is able to inoculate against all of the public's unproductive associations with standardized tests.

What Threatens Educational Outcomes?: Giving the Plot Tension

The "bad guy" role in the education narrative is a critical spot to fill. Many education communicators believe that inequity and disparities should occupy this position, but poorly framed or "untranslated" appeals to equity can backfire with the public, leave advocates vulnerable to opponents whose narratives resonate more readily with dominant beliefs, and narrow the constituency for progressive reforms to those who already support them. In such a situation, an explanatory strategy, rather than a persuasive one, can offer a more productive alternative. Below, we provide productive ways for communicators to explain the detrimental impacts of inequality on education outcomes. In the public mind and in public discourse, teachers are blamed for problems in the education system. We therefore also offer a way to talk about lack of teacher support and limited opportunities for professional development as the true villain in this story.

A. Lack of Fairness Across Places

The *Fairness Across Places* value accomplishes two cognitive and communicative tasks: (1) It reminds the public of an available, but recessive, belief that all children deserve the opportunity to learn in quality environments no matter who they are or where they live, and (2) it explains that we are not currently living up to those strongly held ideals in such a way that makes it difficult for the public to revert to default beliefs that individuals are responsible for their own circumstances and outcomes.

Fairness Across Places did particularly well in our second survey experiment on education reform. With respect to the questions grouped under the heading *Evaluating Performance*, which charted respondents' attitudes toward more progressive measures of student accomplishment, *Fairness Across Places* produced highly statistically significant movement in a productive direction.

Fairness Across Places:

"Some communities are struggling because they are not given a fair chance to do well. This is because programs and services are not fairly distributed across all communities. We need to make sure that every communit has access to quality education programs and services."

B. Spotty Charging Stations

The *Spotty Charging Stations* metaphor does the work of explaining how inequality translates into real differences in educational outcomes. It does so by:

- Explaining disparities in outcomes as the function of certain "upstream disadvantages related to race, place, language and income.
- Comparing schools and school systems.
- Minimizing the importance of individual traits by establishing disparities in outcomes as population-level phenomena.
- Explaining how the funding structure of public schools through local property taxes is one driver of disparities in outcomes.
- Neutralizing the zero-sum associations that often result from the ubiquitous "achievement gap" metaphor.

The Explanatory Metaphor that emerged from the research process was *Charging Stations* or, stated in the negative, *"Spotty" Charging Stations*:

Charging Stations:

"Learning opportunities are like charging stations. Presently, access to these stations varies greatly from one place to the next. We need to make powerful charging stations ubiquitous so every child can charge up to take an active role in their learning."

In qualitative testing, the metaphor helped members of the public generate a range of contextual factors, including school environments, that shape individual educational outcomes. At the same time, it shifted attributions of responsibility for educational outcomes away from the actions of individual parents, students and teachers (inoculating against the *Tangible Triad*). However, it is critical, then, when executing the metaphor, that communicators do not equate children to batteries, as this tends to reactivate more individualistic understandings of education.

C. Lack of Scaffolding

The *Scaffolding* metaphor helps the public better engage with what supports effective teaching and the impacts on education and learning when that scaffolding is not in place. It allows communicators to talk about where teaching fits in education reform, without demonizing teachers.

This metaphor was designed to:

- Remind the public that teaching is a collective activity that requires collaboration.
- Make visible the types of support that teachers need to do their jobs.
- Emphasize the skills and proficiencies that result from training.
- Marginalize the strong default assumption that caring is the main, or only, quality a teacher needs to succeed.
- Explain why teachers would benefit from, or need, teachers' unions.

Scaffolding:
"Just as construction workers need scaffolding to build a structure, teachers need various kinds of support to build learners' brains."

This metaphor proved to be highly understandable, applicable, communicable and self-correcting. When thinking with this metaphor, members of the public were less likely to engage in unproductive conversations about how institutions impede teachers' abilities to do their jobs, and instead focused attention on making systems more supportive of teachers' professional needs. The metaphor also redefined the influences on teacher success, focusing attention on access to resources and professional learning opportunities, and less on individual teachers' emotional qualities. Finally, and perhaps most importantly, by prompting the public to think about the many types of support that teachers need to be effective, the *Scaffolding* Explanatory Metaphor trumped and silenced the easy assignment of teachers' unions to the "bad guy" role in the education narrative.

How do We Improve Education and Learning?: Offering Resolution to the Plot by Reframing Reform

Progressive education reformers are seeking to advance a narrative that reclaims the promise of the public education system, and builds support for continued and sustained reinvestment in neighborhood schools. In a context in which many popular reforms further fragment and privatize the system — and to build public will for maintaining a public

system in the face of beliefs that government is inefficient and ineffective — conscientious and intentional reframing of this chapter of the narrative is essential.

A. Ingenuity

The value of *Ingenuity* counteracts fatalistic assumptions that the system is "broken beyond repair," and pulls forward the ideal of problem-solving, evoking the American belief that it is in our national culture to find innovative solutions to challenges, and that overcoming obstacles requires resourcefulness and thoughtfulness.

Ingenuity:
"We have the ingenuity and foresight to develop solutions to problems that affect children in all of our communities."

B. Pragmatism

The value of *Pragmatism* points the public to the feasibility and practicality of education reform. By emphasizing the concrete steps we can take to improve education for all students, it emphasizes how we can progress on longstanding challenges. It consistently raised support for progressive education policies in experimental surveys.

Pragmatism:
"This is about taking a practical, commonsense, step-by-step approach to a solvable problem in our schools."

C. Remodeling Education

The *Remodeling* metaphor explains the process of education reform. It was designed to accomplish the following tasks:

- Communicate the need for innovative reforms and new approaches to learning.
- Explain how reform processes work.
- Inoculate against crisis thinking about education reform.

Remodeling Education:
"The changes we need to make to our education system are like remodeling a valuable but outdated house — keeping what works, and updating what doesn't, to make it more functional for today's needs."

FrameWorks' research revealed the myriad strengths of the *Remodeling* Explanatory Metaphor. The metaphor helps people understand reform as necessary and significant, while also maintaining the sense that it is feasible. While communicating the need for reform, the metaphor does not overwhelm people by the magnitude of change. Because remodeling is a step-by-step process that can involve both small and major changes, the public was able to grasp how we might go about reforming the education system. With the *Remodeling* metaphor, even major structural changes are thinkable because there is an underlying understanding of the process of reform. The metaphor therefore effectively inoculates against pessimism about, and disengagement from, reform conversations.

IV. Traps in Public Thinking

In the following section, we identify communication habits that "trap" public thinking in unproductive evaluations and judgments. Traps are often habits of a field or common media practices and, as such, can be difficult to notice and even harder to avoid. Traps are eminently plausible ways of framing an issue that, upon investigation, fail to achieve the desired effect, or even turn out to do more harm than good. They are especially perniciou because they respond logically to challenges that communicators have observed from experience — but they don't have a logical impact on the audience. Communicators need to be aware of the following traps as they engage the public on education and education reform.

1. The Innovation Trap. The media appear eager to report on "efficient" and "innovative" reforms to the education system. However, in the media, the idea prevails that innovative reforms can only happen outside of the traditional public school context. They do so by painting a stark picture of public schools mired in bureaucracy and stuck in old models of education, and non-public or quasi-public institutions as incubators of reform.[14] Communicators should avoid falling into this trap by actively avoiding business and consumerist language like "efficiency." Most importantly, communicators should resist using analogies and comparisons between the public education system and private industry in discussions of reform.

2. The Crisis Trap. The media consistently represents the education system as a system in crisis. The most recent manifestation of this recurring narrative is a "skills crisis," which holds that the education system is not providing students with the skills they need for employment.[15] Through a variety of quantitative and qualitative research, FrameWorks has found that, while this framing may be attention-grabbing, it does not increase publi support for progressive reform initiatives. Rather than appealing to crisis, communicators should be honest about the scope and scale of the problems facing the education system, but also put forth viable reforms and solutions that can address those problems.

3. The Revolution Trap. The clear dominance of the *It Worked for Me* cultural model should give communicators reason to question the effectiveness of calls to revolutionize, "blow up" or reinvent the education system. Such calls are likely to cue the strongly nostalgic views that make Americans resistant to changing the education system and likely to go "back to the basics" as the preferred solutions to education issues. To avoid this trap, communicators should replace calls for complete transformations, and dramatic

statements about reinvention and revolution, with more measured language. Communicators can also avoid this trap by recruiting frame elements such as *Pragmatism*, *Ingenuity* and *Remodeling* to establish change as significant, yet feasible.

4. The Lack of Process Trap. Despite intensive media coverage of education issues, readers looking to the news for an understanding of how children learn are left empty-handed. This absence leaves the public where it is — modeling effective instruction as the passive absorption of "the basics." In turn, this limits popular consideration of the importance of other skills; diminishes understanding of the need for rethinking the spatial and temporal configurations of classrooms and schools; and makes it difficult for the public to imagine alternatives to standardized tests of student achievement as the dominant method of assessment. Communicators should not fall into the trap of leaving process invisible and focusing only on problem or solutions statements. Instead, they should provide clear explanations of how learning occurs, with Explanatory Metaphors such as *Pollination Points*, *Cooking With Information* and others.

5. The Classroom Bubble Trap. Media coverage of education tends to be divided into two distinct types of stories: those that focus on what occurs in classrooms and schools; and those stories that concentrate on policy and governance issues related to the education system as a whole. In the first type of story, the classroom is sealed in a bubble and separated from external factors that impact learning processes and educational outcomes. Teachers first and foremost, followed by students and their parents, are the only actors that impact educational outcomes. In the second type of story, administrative and policy aspects of the education system are politically motivated and transpire "downtown," far removed from the everyday concerns of the classroom. This bifurcated coverage reinforces ideas that educational outcomes remain the sole responsibility of the *Tangible Triad*, and supports negative perceptions of the government as inefficient and of policy concerns as "politics as usual." Communicators can avoid falling into this trap by connecting policies to instruction and vice versa. For instance, rather than painting a close-up portrait of a vibrant classroom and an inspiring teacher, "widen the lens" to include the professiona development, curricular decisions and funding structures that made the effective instruction possible.

6. The Technology Trap. Several reform initiatives involve increased used of digital media in pedagogical practice. The public, however, has limited understandings of the role that technology can play in improving educational outcomes, and modeling digital resources as "faster, fancier" books reinforces the public's understanding of passive instruction. To avoid this trap, communicators should take care not to appeal to technology as a value, or

assume that members of the public have clear understanding of the ways in which technology can be a part of improving education and learning. Instead, communicators should explain the pedagogical benefits of technology using the Explanatory Metaphors recommended in earlier sections.

7. The Opening Up Schools Trap. Current calls to "open up schools" to communities are likely to be met with incredulity, if not outright pushback from members of the public. Erasing the boundaries between the learning that happens in the school and that which takes place in out-of-school settings violates the public's dominant *Compartmentalized Learning* model. In addition, recent school shootings may make calls to increase the transparency of boundaries between school and community spaces even more likely to create pushback and outright message rejection. Instead, communicators should focus conversations of learning space on *learning* rather than *space*. For example, the *Pollination Points* metaphor emphasizes that effective learning requires movement between places, and helps communicators lead with learning to set up considerations of space.

8. The Flexibility Trap. Communicators should be wary of extolling the virtues of flexible, student-centered classroom spaces without careful framing. Such discussions violate fundamental understandings of what effective and appropriate classroom learning should be — structured, disciplined and hierarchical — and threaten to create message rejection This trap can be avoided by framing different understandings of learning through the use of the metaphors described above *before* introducing ideas of student-centered learning. The frames described above establish understandings from which people can productively consider the importance of flexible curricula and student-directed learning.

9. The Motivation Trap. Communicators often talk about how education reform proposals should increase student motivation. Communicators should be aware that members of the public view motivation in a very different way than is often intended in these messages. For members of the public, motivation is an internal characteristic that is distinct from social context. Without careful framing, appeals to increase student motivation run the risk of activating individual-level understandings, which blind people to the importance of context. The metaphors above that highlight the role of context in effective learning — mainly *Charging Stations* and *Pollination Points* — can be used to avoid this trap.

10. The Multiple Assessments Trap. Advocates who wish to call attention to the limits of current assessment systems may be tempted to make their case by emphasizing the importance of using multiple types of assessments. However, simply appealing to "multiple" assessments will trigger the public's *Every Child is Different* model, which cues a

hyper-individualized understanding of assessment that can lead to disengagement with the issue. Also, without dislodging the understanding that assessment "is" summative assessment, calls for "multiple" assessments may inculcate support for adding even more summative assessments to school systems. To stay out of this trap, communicators should focus on explaining the essential characteristics of an effective approach to assessment, and *why* these components are important; the Explanatory Metaphor *Dashboard, Windows and Mirrors* is helpful in this task.

11. The Fairness Trap. It may be tempting for communicators to talk about assessment reform using the frame of fairness. Communicators must remember that the publi understands fairness in highly individualized terms. Standardized tests are fair because they treat everyone the same and allow for competition. Or, they are unfair because "every child is different" and has a different "learning style." In the absence of clarity about population-level fairness, the public is most likely to default to individual-level fairness. To avoid this trap, use the value *Human Potential*, which pulls forth the public's belief that all children deserve equal opportunity, but without the unproductive side effects of fairness frames. Alternatively, use the value *Fairness Across Places* to establish fairness at a population level.

12. The "Achievement Gap" Trap. The "achievement gap" metaphor is ubiquitous in both advocacy and media discourse. While it is used to bring attention to inequity in the education system, it does not explain to the public why and how disparities exist, nor how addressing education disparities benefits all stakeholders who comprise the system. With this gap metaphor, the public interprets inequitable outcomes as the result of individual effort or achievement, and "closing the gap" becomes a threatening proposal that will unfairly benefit "underachievers." To avoid this trap, explain how structural inequities create different contexts, which then contribute to differential outcomes. The *Charging Stations* Explanatory Metaphor is helpful in this task.

Do's and Don'ts

In addition to the tools and trap-avoiding strategies detailed above, we offer the followin empirically-based recommendations to communicators.

DO

- Begin your communication with an appeal to a value that *collectivizes benefits*, so that people are focused on a "big picture" perspective on education and do not default to individualistic perspectives.
- Get more people and places into the picture by using perspective-widening metaphors (*Orchestra*) or asset-mapping metaphors (*Charging Stations*, *Pollination Points*) that force people to take inventory of the broader landscape of education assets available.
- Tell stories about groups of people interacting with systems to demonstrate how outcomes result from specific policies and programs; if you focus on an individual, do so only after contextualizing with the broader systems story.
- Explain process: how skills develop, how learning is shaped by specific policies and programs, how assessment tools should "fit" the task, how teachers learn to teach over time, etc.
- Show variation in the settings you present as exemplars, blending formal and informal environments, and traditional and nontraditional school time; then pivot to explaining their commonalities and the underlying learning processes that unite them.
- Assign a bad guy to your narrative; without this, the *Tangible Triad* will prevail and people will try to fix education at the level of individual effort.
- Explain inequities in the system by modeling how they happen — the Explanatory Metaphors *Charging Stations* and *Pollination Points* are especially good at helping people rethink their assumptions away from individual effort, to the quality and quantity of resources available.
- Talk about reforms with a practical, can-do tone in order to avoid people's cynicism and fatalism about government generally and the education system in particular.
- Link your particular policy prescription or issue to the broader Core Story of Education narrative. In this way, you can partake of the force of the broader story, further invigorate it, and map it onto a specific policy solution. Without this, you run the risk of merely generating dozens of competing narratives that have little chance of contesting the dominant narratives on education.

DON'T

- Don't begin your communication with your policy prescription, a specific aspect of education (assessment, skills, etc.) or an exhortation to large-scale reform.
- Don't focus attention on the Tangible Triad — parents, teachers and students; this mistake is often inadvertent in the selection of photos to illustrate narratives that may otherwise be well framed.
- Don't use examples of individual students, parents or teachers as a way to engage people in a story; you may accomplish that, but the story will merely reinforce their preconceived notions that education is all about individual effort.
- Don't make motivation the focus of the reform unless, and until, it has been contextualized by an explanation of how learning happens — i.e., the systems are incentivized to appropriately support engagement and learning.
- Don't leave places in the narrative open to interpretation — the setting (who is involved), the focus of attention (the system, not individuals), the process (by which skills develop or assessments are chosen to fit the task), the bad guy, the solutions, and how they would ameliorate the situation. An incomplete communication will allow strongly held default assumptions to undermine your narrative.
- Don't assume that people understand WHY education fails to meet the needs of many children; you must connect the causes and conditions to the outcomes, or people will fill in with their fatalistic explanations, or with assumptions about effort and "culture."
- Don't use highly visionary language, which is only likely to drive people into an "ideal vs. real" trap.

Conclusion

What FrameWorks has delivered to the field of education communicators from the Core Story of Education Project is a meta-narrative that can be adapted to support understanding of specific policies and programs. Indeed, Humpty Dumpty can be put back together again — but the siloed storytelling and advocacy for discrete aspects of the education agenda will do little to make this happen. A concerted effort to put the piece together in a unified effort to engage the public in rethinking what they think they know is the only way to bend the arc of education policymaking. This evidence-based approach to storytelling provides the rough draft of a new plot, complete with sub-chapters. It is not meant to constrain the artistry of advocacy, but rather to focus its energies on those narrative elements that hold the most promise of opening up public discourse to new way of thinking about education and education reform. The history of social movements strongly suggests that the unifying power of a meta-narrative, or core story, has a salutary effect on long-term political change.[16] What is less well understood is the power of master frames to unify a field of practice, and to avoid frame competition for limited public attention. In FrameWorks' experience, as we have seen in our work on early child development, the magnetism of an effective core story tends to dissolve framing rivalries within a field, and thus to harness the full power of multiple voices and respected institutions.[17] No less than a full-court press is needed if the strongly held and pervasive folk stories we have documented about education in the U.S. are to be successfully marginalized and replaced. We offer this work as an important asset in that struggle.

About the Institute

The FrameWorks Institute is a national, nonprofit think-tank devoted to framing public issues to bridge the divide between public and expert understandings. Its work is based on Strategic Frame Analysis™, a multi-method, multi-disciplinary approach to empirical research. FrameWorks designs, commissions, publishes, explains and applies communications research to prepare nonprofit organizations to expand their constituenc base, to build public will, and to further public understanding of specific social issues — the environment, government, race, children's issues and health care, among others. Its work is unique in its breadth — from qualitative, quantitative and experimental research, to applied communications toolkits, eWorkshops, advertising campaigns, FrameChecks™ and Framing Study Circles. See www.frameworksinstitute.org

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Appendix A

The following research reports have been published by FrameWorks Institute (Washington, DC) as part of this inquiry. [Click on the title for hyperlink to each report]. For a complete listing of research reports on the issue of Education, please visit FrameWorks Institute's website http://www.frameworksinstitute.org/239.html

Public Perceptions Research

Framing Education Reform: A FrameWorks MessageMemo (2010). This is one of two summary analyses pulling together several years of FrameWorks' qualitative and quantitative research on how Americans think about the education system in general and education reform specifically. Includes recommendations for using values and Explanatory Metaphors to frame a wide array of policies from pre-K to higher education.

Reform What? Individualist Thinking in Education: American Cultural Models on Schooling (2008). Cognitive interviews conducted by FrameWorks show that involved citizens overwhelmingly think about education at the individual level, and have difficulty thinking about schooling and learning as a public good that requires societal investment. This report, based on 49 in-depth interviews, offers a preliminary map of the most relevant cultural models that guide Americans' thinking about education.

Enough Blame To Go Around: Understanding the Public Discourse on Education Reform (2009). This report shares the results of 18 focus groups conducted in seven cities with diverse groups of politically engaged people around the United States. This research shows that Americans generally understand the education system as "failing," but lack an organized understanding of the way the system functions or how it may be improved. A key impediment to education reform is the lack of agency that is evident in these discussions.

Media Content Analysis

Magic Bullets Hanging by a Thread: Cognitive Media Analysis of Structures of Education and Education Policies and Programs (2013).
This report is part of a series that analyzes media discourses regarding learning, education and education reform, and how these discourses impact public understanding of these issues. In this installment, FrameWorks researchers analyzed and identified dominant media frames regarding structures of education and education programs and policies. Relevant stories from newspapers across the country, television broadcasts and news-

oriented blogs between October 1, 2010, and October 1, 2011 were examined.

Overarching Patterns in Media Coverage of Education Issues: A Cognitive Media Analysis (2012).
This report is part of a series that analyzes media discourses regarding learning, education and education reform, and how these discourses impact public understanding of these issues. FrameWorks researchers identified dominant media frames that cut across the following issues related to education: skills and learning, learning space and time, assessment, education programs, educational disparities, policies and interventions, structures of education, and the goals or ends of the education system. Relevant stories were drawn from newspapers across the country, television broadcasts and news-oriented blogs between October 1, 2010, and October 1, 2011.

Put Your Pencils Down Please: Media Coverage of Education Reform 2007-2008 (2009). This study was designed to gain an understanding of how major and select local media cover the ongoing debates over education reform. Relevant stories about reforms aimed at the pre-K through high school years from June 1, 2007, through July 31, 2008, were examined. Researchers found that education reform is typically covered as a local issue where the goal of improved student achievement is juxtaposed against the chronic resource constraints of local school systems.

Don't Give Up on Education!: A Cognitive Analysis of the Media Coverage of Education Reform 2007-2008 (2009). In this second media analysis, FrameWorks researchers analyze how dominant frames in the news coverage of education reform impact public understanding of this issue. Issues in media depictions of education and education reform are examined, and suggestions for future framing strategies are suggested.

Reframing Research

Steps Towards Valuing Education (2012). An interactive multi-media report that summarizes the results of our quantitative experiment on the effects of values on the issues of skills and learning, learning space and time, and assessment. The report includes an interactive chart on page 14 that shows how each value fared on each issue. By clicking on the chart, you can also see the iterations of each value and the policy battery for each issue. The report also includes video of informants using values in a social context.

Preparing America for the 21st Century: Values that Work in Promoting Education Reform Efforts (2010). This report details the results of an experimental survey of more

than 1,800 registered voters, and explores the extent to which alternative values elevate public support for a wide range of education reforms. The report demonstrates the power of using the value of *Future Preparation* in communications about education reform, examines the performance of this value across several different types of cognitive tests, and provides guidance to advocates about the wisdom of combining messaging across different levels of the education system. Our results on the latter suggest that advocates should be careful about combining communications about preschool with those related to education at the K-12 and higher education levels.

Orchestrating Systems and Remodeling Reform: Reframing Education Reform with Explanatory Metaphors (2010).
The research described in this report identifies two Explanatory Metaphors that, through a multi-method empirical testing and refinement process, have proven effective in extending and shifting patterns of thinking about education reform.

Skill and Learning

Talking About Skills and Learning: A FrameWorks MessageMemo for the Core Story of Education Project (2012). What are the perceptual obstacles that prevent education reformers from engaging the public in meaningful discussions about improving skill development through education reforms large and small? New FrameWorks research begins to answer this question, and the initial findings are encapsulated in this MessageMemo. This MessageMemo represents the first in a series of interpretive reports to emerge from the Core Story of Education Project.

Mapping the Gaps on Skills and Learning (2012). This interactive multi-media repor maps the gaps between the ways that the public and experts think and talk about issues of skills and learning in education. The report is a summary of findings. Those findings are then illustrated with video data pulled from peer discourse sessions.

Informational not Pedagogical: Peer Group Perceptions of Digital Media and Learning (2011). This report shares the results of peer discourse sessions conducted with diverse groups of civically engaged people about digital media and learning. This research demonstrates the utility of explanatory metaphors in translating the expert discourse on digital media and learning to lay audiences, and the necessity of both explanatory metaphors and values for garnering support for social policies that can show people how the mentored use of digital media can be used to produce better outcomes in American education.

Faster and Fancier Books: Mapping the Gaps Between Expert and Public Understandings of Digital Media and Learning (2010). This report lays the groundwork for the larger reframing project by comparing expert discourse on this topic with the ways that average Americans talk and think about digital media and learning. Data from interviews with members of these groups are compared to examine gaps in understanding that can ultimately be addressed through strategic communication strategies.

Where's the Learning? An Analysis of Media Stories of Digital Media and Learning (2011). This report examines the explicit and implicit messages embedded in the media's presentation of issues related to digital media and learning in the nation's newspapers, radio and TV news sources. When mainstream news outlets discuss issues related to digital media and learning, the focus is mainly on uses in the business and political sectors, ignoring the potential of digital media as interactive pedagogical tools for K-12 children. The report underscores significant opportunities to shift public understanding of this issue by framing digital media as an interactive, hands-on and engaged approach to student learning.

The Stories We are Telling: How Digital Media and Learning is Communicated by Education Reformers (2012). This study uses a Field Frame Analysis approach to identif whether and how DML issues are presented in the education reform field. One of the most important findings of this study is that there are prominent supporters of DML in the education reform field. However, the ways in which these organizations discuss DML, and learning and technology issues more generally, may actually hinder rather than build wider support for DML programs.

Weaving Skill Ropes: Using Metaphor to Enhance Understanding of Skills and Learning (2013). This report presents *Weaving Skill Ropes* as an Explanatory Metaphor that helps people reason about the concepts of skills and learning: what skills children need, how these skills are learned, and how they are interrelated. The report describes the iterative research process that produced the *Weaving Skill Ropes* Explanatory Metaphor, and provides a guide on how to use this communications tool.

Information is the Main Ingredient: Using Metaphor to Enhance Understanding of Digital Media and Learning (2012). This report presents the results of metapho development research based on the use of qualitative and quantitative methods with over 2,100 members of the public, as well as a usability test-drive with DML advocates themselves. Our research yielded two productive Explanatory Metaphors: *Cooking With*

Information and *Information Driver*. *Cooking With Information* is an effective metaphor in expanding the public's understanding of using digital media as a hands-on, interactive tool for lifelong learning. *Information Driver* is another successful metaphor for opening up opportunities for productive discussions on teacher mentorship and the facilitated learning process.

Valuing Digital Media and Learning: A FrameWorks Research Report on Values (2012). The experiment assessed the ability of seven candidate values to promote more productive thinking on three dimensions related to digital media and learning. *Progress* and *Pragmatism* were the highest scoring values in: (1) creating more favorable views for a role for digital media in learning, (2) increasing respondents' acknowledgement of the benefits of digital media that experts cite, and (3) expanding support for policies that implement the kinds of interactive and experiential learning proposed by DML experts and advocates. We suspect that combining the values of *Progress* and *Pragmatism* will provide a potent "one-two" punch that could cause significant changes in the way people orient themselves toward this issue.

Assessment

Mapping the Gaps on Assessment (2012). This interactive multi-media report maps the gaps between expert explanations and public understandings of assessment. Data from interviews with both education experts and lay informants are compared to examine gaps in understanding that can be addressed through strategic communication strategies. Video and audio data from peer discourse sessions are used to illustrate key findings.

Cognitive Media Analysis on Assessment (2012). This report is part of a series that analyzes media discourses regarding learning, education and education reform, and how these discourses impact public understanding of these issues. In this installment, FrameWorks researchers analyzed and identified dominant media frames regarding education assessment. Relevant stories from newspapers across the country, television broadcasts and news-oriented blogs between October 1, 2010, and October 1, 2011 were examined.

Learning Space and Time

Mapping the Gaps on Where and When Learning Takes Place (2012). This interactive multi-media report maps the gaps between expert explanations and public understanding of the spaces and times where learning occurs. Data from interviews with both education

experts and lay informants are compared to examine gaps in understanding that can be addressed through strategic communications strategies. Audio data from cultural models interviews are used to illustrate key findings.

How Media Portray Learning Space and Time (2012). This report is part of a series that analyzes media discourses regarding learning, education and education reform, and how these discourses impact public understanding of these issues. In this installment, FrameWorks researchers analyzed and identified dominant media frames regarding learning space and time. Relevant stories from newspapers across the country, television broadcasts and news-oriented blogs between October 1, 2010 and October 1, 2011 were examined.

Equit and Disparities

"The Whole Socioeconomic Trickle Down": Mapping the Gaps on Disparities in Education (2013). This interactive multi-media report maps the gaps between exper explanations and public understandings of why some students and schools do better than others. Data from interviews with both education experts and lay informants are compared to examine gaps in understanding that can be addressed through strategic communications strategies. Audio data from cultural models interviews are used to illustrate key findings.

Cognitive Media Analysis of Disparities in the Education System (2013).
This report is part of a series that analyzes media discourses regarding learning, education and education reform, and how these discourses impact public understanding of these issues. FrameWorks researchers identified dominant media frames related to educational disparities. Relevant stories were drawn from newspapers across the country, television broadcasts and news-oriented blogs between October 1, 2010 and October 1, 2011.

Teacher Qualit and Teachers Unions

Understanding Teachers' Collective Role in Reform: Mapping the Gaps Between the Expert and the Public Understandings of Teachers' Unions as Part of Strategic Frame Analysis™ (2010). This report examines how experts and the general public understand the topics of teachers, teachers' unions, and unions more generally. FrameWorks compares these expert and public understandings in order to "map the gaps" that exist between these groups. These "gaps" represent specific areas where reframed communications can bridge expert and lay understandings to improve and encourage new ways of thinking about education reform efforts.

Getting on the Right Side of Change: How Peer Discourse Sessions See the Role of Teachers' Unions in Education Reform (2010). This report details the research findings from a series of Peer Discourse Sessions conducted by the FrameWorks Institute with groups of civically engaged U.S. citizens on the role of teachers' unions in education reform. This report offers an interesting contrast to the individual interviews, revealing how people in group situations discuss their views on the role of teachers' unions.

Painted in a Corner: How the Media Frame Teachers' Unions and Education Reform (2011). This report examines the media presentation of teachers' unions and education reform by identifying and documenting the way existing frames about teachers' unions are embedded and presented to the public in the context of media stories about education reform. More than 500 print and broadcast stories are coded and analyzed for their impact on public thinking.

Building Support for Teachers' Unions: The Role of Values Framing (2011). This study uses an experimental survey design with a large, national panel of respondents to identify a value — *Pragmatism* — that effectively inoculates against negative messages concerning teachers' unions, and creates a space for a constructive conversation about education reform that promotes positive views toward teachers' unions.

Teachers on the Rise: Increasing Support for Teachers' Unions Through a Simplifying Model (2011). This report describes research that is focused specifically on enhancing: (1) Americans' shallow thinking about what teachers need in order to be effective, and (2) Americans' view of the role of teachers' unions as plausible supports for teachers and the overall education reform effort. FrameWorks designed and tested a simplifying model, or metaphor, called *Scaffolding*, which was found to be effective in creating, extending and expanding the public's understanding of the supports needed for teachers. This metaphor was also successful in opening up opportunities for productive discussions on the positive role teachers' unions can play in education reform.

Get in Where You Fit In: The Role of Teachers' Unions in Public Conversations About Education Reform (2011). This new MessageMemo summarizes the findings from FrameWorks' research and provides frontline communicators with a communications map for improving the public's understanding of the linked topics of teachers and teachers' unions in education reform, and for shifting support for education policy alternatives. Also included are embedded video recordings of FrameWorks' Senior Fellow elaborating on the research findings. An interactive version of the MessageMemo is available (requires Flash plug-in).

Appendix B

The essential outline of the Core Story, with detailed executions of each recommended framing element, is as follows:

What's at Stake with Education Reform?: Move Beyond Individualism

Future Preparation

As we set out to improve learning, our most important goal should be to prepare our country's children for our common future. To do this, we must make sure that our children's learning contributes productively to our society. This means identifying and teaching our children the skills that would ensure our common well-being in tomorrow's world. If we fail to act with this goal in mind, our country's lack of preparation will harm us all in the future.

Progress

As we set out to improve learning, our most important goal is to move our country forward. The best way we can do this is to take a commonsense approach to update children's learning. This means identifying and teaching our children useful, real-world skills that our country needs to improve its workforce. If we fail to act with this goal in mind, our children will be stuck with old ways of learning and outdated skills that will move our country backwards. Instead, we should work in a step-by-step fashion to improve learning for the progress and common good of our country.

Human Potential

As we set out to improve learning, our most important goal should be to develop each child's talents, so that a diversity of skills is available to our country. In a complex modern society, we have many roles to fill and it is in our best interest to develop the skills we will need. We can't afford to continue with one-size-fits-all education. Our country's schools need to help identify children's interests, and then take them as far as they can go on their chosen paths. If we fail to act with this goal in mind, the U.S. will suffer the loss of human potential.

How Should Education Work?: Answering the Who, When and Where Questions

Educational Orchestra

Our nation's education system is like an orchestra: It has many groups of players with specialized jobs, such as school boards, taxpayers, families, teachers, principals and administrators. The orchestra sounds best when each musician is skilled, the instruments

are well-tuned, and the sections work together in harmony toward the common goal of playing the best music they can. But a changing America and world have handed the orchestra new music to play, and they haven't gotten in sync yet or rehearsed the new repertoire enough to be ready to perform it. No orchestra becomes great overnight, and the beauty of the music depends on lots of small steps, dedicated practice by musicians who have all the resources they need, and an orchestra conductor who can create harmony among all the parts. We can use this orchestra theory to guide how we approach education reform.

Pollination Points

Learners need access to a lot of pollination points in order to engage their attention and grow their motivation. Some of those pollination points are schools, which should be designed to let teachers and students move around and work together easily. These schools should also give students access to ideas beyond the classroom, and schedule learnin activities at the right time of day. Communities should also develop other types of pollination points, such as libraries, science centers and community groups, where students can be pollinated by ideas. A vibrant community has lots of connected pollination points.

What are We Trying to Improve?: Defining Outcomes, How they Happen and How to Measure them

Weaving Skill Ropes

Learning is about the brain weaving skills together to form strong skill ropes. A rope is made of smaller strands, and skill ropes are made up of individual skill strands such as people skills, emotional skills and thinking skills. For a rope to be strong and usable, it needs strong strands that are woven together tightly. For skill ropes to be strong and do what they need to do, they need all the individual strands to be strong and they also need all these strands to be woven tightly together. To do its job, each strand needs all the others. All the skills in a skill rope need each other. Weaving, unweaving and reweaving skills is important. Learners need to learn individual skills, and they need to learn how to weave, unweave and reweave the skill strands together to make ropes to do all the different things they will have to do.

Cooking With Information

In order to improve learning, children need practice working with information as a basic ingredient — they need to be able to find it, judge its quality, and know how to mix it together to produce knowledge. In this way, children are like cooks in a kitchen who work with information ingredients. To really learn how to cook, students need to taste the

ingredients, practice using kitchen tools, and spend lots of time trying different recipes out in the kitchen. They are mentored by more experienced cooks in this hands-on process. Eventually, children learn to create their own recipes. Likewise, children need to get experience with all kinds of information ingredients and need opportunities to mix them together to produce knowledge. Children have to know how to use information the wa cooks know how to use ingredients.

Information Drivers

In order to improve learning, we can think of students as being like information drivers on a knowledge journey. On this journey, students need to be in the driver's seat and have their hands on the wheel. They need to learn the rules of the road and know how to skillfully operate their vehicle. But they can't learn this on their own. They need lots of help from more experienced drivers to guide them. With mentorship, students learn the skills they need so that they can operate their vehicle in a variety of conditions and reach their destination. This experience prepares students to eventually become expert drivers on the knowledge journey of life. Children have to know how to use information to get to where they're going.

Dashboard, Windows and Mirrors

Students, teachers and administrators need multiple ways to assess whether or not learning is happening, just like drivers need different kinds of instruments on their dashboards. Each gauge has a different purpose, just like each assessment has a different purpose. There are standardized odometer gauges that evaluate big trends across schools. There are student feedback speedometer gauges that focus in on one particular student, and give them an idea of where they are and how they're moving in real time. And there are teacher gas-tank gauges to make sure that teachers have the skills they need to power their students' learning. There are also ways to directly observe and make adjustments during navigation: Mirrors and windows are just as important as the gauges. The education system works best when students, teachers and systems are assessed and guided by multiple pieces and types of information that fit the job at hand and meet their navigational needs.

What Threatens Educational Outcomes?: Giving the Plot Tension

Lack of Fairness Across Places

Lately there has been a lot of talk about fairness among different parts of our city. Some communities are struggling because they are not given a fair chance to do well. This is because programs and services are not fairly distributed across all communities. When some communities are denied the resources they need, they are unable to overcome problems such as poor health and education. According to this view, we need to level the

playing field so that every community has access to quality health and education programs and services.

Spotty Charging Stations

Learning opportunities are like "charging stations." All learners need chances to charge up so they can take an active role in their learning. Every American child should be able to count on the neighborhood school as a reliable charging station, but those aren't strong enough in every community. One reason is that schools are funded through property taxes, so schools in low-income areas have less to work with. In the country right now, some students are in charging systems with lots of opportunities to charge up to learn — everywhere they go they can find powerful charging stations like great parks, libraries, museums and extra curricular programs. But other students are in charging dead zones — places where there just aren't many high-quality charging opportunities. Also, stereotypes about certain kinds of kids affect the opportunities they get to charge up. For children who we think can't learn, we provide fewer highly charged learning opportunities. The current system is built so that it provides fewer charging opportunities for some of our nation's children. In order to improve learning in America, we should focus on building effective charging systems across the country — so that all students, no matter where they are, have high-quality opportunities to charge up their learning.

Lack of Scaffolding

In order for learning to be effective, teachers need supportive scaffolding. Teachers are "brain builders" who rely on a supportive network for sharing plans, tools and materials to construct effective learning experiences. The quality of the scaffolding that supports teachers affects how well they can do their job for students. For teachers, this scaffolding includes training and continuing education, having the right equipment in classrooms and schools, and getting performance feedback from supervisors. When builders face a particularly challenging project, they should get more resources, not fewer. In such cases, they need better scaffolding so they can meet these challenges. To ensure that we have teachers who are effective brain builders, we should make sure they have strong support and effective scaffolding.

How do We Improve Education and Learning?: Offering Resolution to the Plot by Reframing Reform

Ingenuity

As we set out to improve learning, our most important goal should be to tap our ingenuity so that we can take an innovative approach to meeting challenges. To do this, we must borrow good ideas that are working elsewhere, generate new ideas when needed, and be

creative and thoughtful when putting them into practice. We can apply American ingenuity to redesigning school programs and curricula to provide excellent schools. If we fail to act with this goal in mind, the U.S. will miss out on developing the talent that keeps us a nation of inventors and innovators.

Pragmatism

As we set out to improve learning, our most important goal should be to use a commonsense approach. To do this, we must make sure that our children's learning is practical, and designed to meet our needs. This means identifying and teaching our children the things that they will need by replacing irrelevant programs with those that provide useful skills. If we fail to act with this goal in mind, our country will continue to approach learning with impractical methods and solutions instead of proven techniques.

Remodeling Education

When you remodel a house, you do more than just repaint it: You make substantial changes, keeping the previous shape of the house but updating old parts, and making the house more modern and efficient. Like a general contractor, we have to remodel our education system so that it enables our society to thrive in today's world. Right now, our education system is an old house that doesn't do a good job of educating our children, or providing society with the skills that America needs. The bad news is that remodeling creates temporary dust, noise and inconvenience; but the good news is that when you remodel you don't have to start from scratch — you strengthen what's working and fix what's not. If we approach education reform as remodeling, not demolishing, we will be more successful in giving our children what they need.

Endnotes

[1] Cultural models are the implicit assumptions, norms and patterns of understanding that people employ to think about social issues.

[2] These earlier reports are integrated into the Education Issue page at http://www.frameworksinstitute.org/issues-education.html

[3] A separate MessageMemo on this topic will be published by the FrameWorks Institute in 2015.

[4] Bales, S.N., Kendall-Taylor, N., Lindland, E., O'Neil, M., & Simon, A. (2012). *Talking about skills and learning: A FrameWorks MessageMemo for the Core Story of Education Project.* Washington, DC: FrameWorks Institute. http://www.frameworksinstitute.org/assets/files/talking_about_skills_and_learning_core_story_mm.pdf

[5] See Appendix A for a complete list of the research that informs this report.

[6] For a deeper discussion of this approach to communications, see http://www.frameworksinstitute.org/sfa-overview.html

[7] For greater explanation of these models, see: Bales, S. (2009). *Framing education and education reform: A FrameWorks MessageMemo.* Washington, DC: FrameWorks Institute.

[8] For a more detailed explanation of how Americans view teachers, teaching and teachers' unions, see http://www.frameworksinstitute.org/k12-teachers-unions.html

[9] These models are explained in greater detail in the MessageMemo entitled *Talking About Skills and Learnin* at http://www.frameworksinstitute.org/assets/files/talking_about_skills_and_learning_core_story_mm.pdf.

[10] See http://www.frameworksinstitute.org/assets/files/ed-core-story/ecs_mca_overarching_final.pdf.

[11] The effects of this nested cultural model are directly connected to the "education as a business" model described above.

[12] Gaps on the system, goals, reform, and skills and learning are further enumerated in the following report Bales, S. (2009). *Framing education and education reform: A FrameWorks MessageMemo.* Washington, DC: FrameWorks Institute.

[13] See, for instance, Thibodeau, P., & Boroditsky, L. (2011). Metaphors we think with: The role of metaphor in reasoning. *PloS ONE*, plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0016782; Gentner, D. (1983). Flowing waters and teeming crowds: Mental models of electricity. In D. Gentner & A. Stevens (Eds.), *Mental models.* Hillsdale, NJ: Lawrence Erlbaum Associates.

[14] See http://www.frameworksinstitute.org/assets/files/ed-core-story/ecs_mca_overarching_final.pdf.

[15] See http://www.frameworksinstitute.org/assets/files/ed-core-story/ecs_mca_overarching_final.pdf.

[16] Benford, R. D., & Snow, D. A. (2000). Framing processes and social movements: An overview and assessment. *Annual Review of Sociology, 26*, 611-639.

[17] Lorick-Wilmot, Y. (2011). *Speaking a common language: Building a community of effective framers in Alberta, Canada.* Washington, DC: FrameWorks Institute.

Attachment C

OPTIONAL READINGS

If you are interested in additional readings to prepare for the Governing Board's Strategic Planning conversation, you may consider these additional resources:

Executive Committee February 2015 Retreat Materials

https://www.nagb.org/content/members/meetings/board-meetings/2015-02.html

Frameworks Institute

Putting It Back Together Again (multi-media version)

Telling Stories Out of School