



# Cognitive Media Analysis of Skills and Learning

A Core Story of Education Report

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## Introduction

Americans view learning as a profoundly individual endeavor. From this perspective, the environmental and ecological factors that shape skill development as well as the collective economic and social benefits of skills easily fall out of mind.<sup>1</sup> The media represents a strategic lever for widening public discourse about learning. Media frames have a powerful effect in shaping public thinking by activating existing understandings or building new ones. As cognitive anthropologist Deborah Tannen explains,

*People approach the world not as naïve, blank-slate receptacles who take in stimuli ... in some independent and objective way, but rather as experienced and sophisticated veterans of perception who have stored their prior experiences as an organized mass. This prior experience then takes the form of expectations about the world, and in the vast majority of cases, the world, being a systematic place, confirms these expectations, saving the individual the trouble of figuring things out anew all the time.<sup>2</sup>*

A first step in creating room in the public discourse for the role of context in skill development, the importance of non-cognitive skills, and the need for experiential, learner-centered curricula is to understand how learning and skills are currently framed in the U.S. media. The research presented here addresses this task.

This cognitive media analysis is part of a series of reports that analyzes the media's coverage of education and learning issues.<sup>3</sup> The compendium of media reports is designed to inform experts and advocates about the patterned ways in which the media commonly represents educational issues and how these patterns interact with public understanding. In order to do this, FrameWorks researchers first map the common streams of media opinions, arguments, and narratives that constitute "public discourses" about learning and education. FrameWorks then analyzes how the media coverage compares to the kinds of messages education experts and advocates are trying to disseminate. Finally, in this report, researchers compare the dominant frames in the media to findings from a report detailing the cultural models—or shared, patterned, and implicit understandings and assumptions—that Americans use to think about issues related to skills and learning.<sup>4</sup> The fundamental research question addressed here is: What would be the likely effect of exposure to the dominant frames in public discourse, as they interact with cultural models in mind?

Here FrameWorks researchers map the contours of media coverage of skills and learning by examining a sample of 259 articles that covered these issues. This

sample was drawn from print and broadcast media sources between October 1, 2010, and October 1, 2011. The findings are based on an in-depth qualitative and cognitive analysis of these media stories.<sup>5</sup> By analyzing the ways that the media constrains and enables public understanding of specific issues, this report provides a blueprint for responding to and informing the media coverage of skills and learning issues.

## Executive Summary

Skills and learning are narrowly framed in mainstream news outlets. Media coverage typically presents skills acquisition in individual economic or financial terms; focuses primarily on cognitive skills; and neglects the importance of quality learning environments and the interaction among social, emotional, and cognitive processes. Key features of the media's coverage of skills and learning include the following:

- **Individual economic success is the goal of skill development.** Individual career readiness is the most cited learning outcome. This frame supports the sense of individualism that structures the American public's perceptions of learning processes and the education system in general.<sup>6</sup> Virtually no attention is paid to civic development or healthy relationships as outcomes of learning.
- **The *Crisis* frame dominates.** Media stories emphasize the "skills crisis" among American students. This frame discourages public identification and consideration of reforms that would improve skills development.
- **Lots of Individual Differences.** The media represents learning as a hyper-individualized process in which every child learns in her own unique way. Differences in skill development are attributed to individual and biological characteristics, rather than to common factors that affect learning outcomes, such as the quality of learning environments. Left largely unaddressed were more systemic causes of disparities in skill acquisition. Media coverage clearly privileged biological rather than social determinants of learning. This type of coverage also makes it difficult for Americans to see any causal relationship between curriculum or teacher preparation as predictable contributors to group outcomes.
- **Process is a cognitive hole.** In general, the media coverage of skills and learning is vague. The skills students need to succeed in the workplace or to become active members of their communities are undefined, the content of student learning is murky, and the process of skill development is left unexplained. Moreover, because coverage of skills tips toward older students, the early stages of skill development that experts value are omitted and therefore marginalized from public attention. Non-cognitive skills are also

missing from the news. These absences leave space for the public to “fill in” information with their default understandings of these processes. These highly accessible default understandings include an over-emphasis on students’ development of “basic” skills at the expense of higher-order, social and emotional skills; insistence on individual responsibility for skill development; and an underdeveloped sense of the collective benefits of a well-running educational system.<sup>7</sup>

- **Some dynamism.** Although less dominant than other frames, the media occasionally explores learning as an interactive process and describes examples of dynamic classrooms and learning environments. Earlier FrameWorks research finds that the public also understands the importance of “hands-on,” interactive learning.<sup>8</sup> Given that these understandings already exist in mind and in media, communicators may benefit from increasing emphasis on learning as a hands-on, direct and interactive endeavor.

Based on these results, we argue that media stories on skills and learning present both constraints and opportunities for communicators. The dearth of coverage about how learning takes place allows the public to fall back on narrow ways of thinking that occlude the importance of context and collective benefits of learning and skill development. On the other hand, this also means that space exists for experts to use the media to carefully frame explanations of why skills are important, how they develop and how this process can be improved. FrameWorks argues that this is a key step in expanding public thinking about education reform.

## Results

### ***Dominant Frames***

In this section, we analyze the most dominant frames in the media coverage related to skills and learning.

### ***The Skills for Economic Benefit Frame***

The *Skills for Economic Benefit* frame included discussions of both individual career readiness and workforce preparation; these were the most commonly stated purposes or goals of learning and were cited as the most important reasons for Americans to support policies and educational initiatives that targeted skills development. In fact, 23 percent of the stories in the sample discussed educational goals in reference to economic development. However, the majority of these stories focused on financial success that accrues to individuals, rather than communities or American society in general, as illustrated by the following examples.

*To start with the obvious, a college education has never been more necessary for a decent life in America. Many manufacturing jobs now demand a level of*

*skill and education that virtually requires a college degree. A lot of white-collar employers won't even consider a job applicant who hasn't graduated from college.<sup>9</sup>*

*What you study matters more than the level of degree you get. Some subjects, quite simply, are more in demand in the economy. Among workers with bachelor's degrees, for instance, petroleum engineers will earn \$120,000 a year, compared with guidance counselors, who will average \$40,000 a year.<sup>10</sup>*

Media coverage further supported the *Skills for Economic Benefit* frame by using career-related activities as a measurement of skill development. Commentators argued that educational institutions of all levels should focus their attention and resources on teaching skills that can be directly leveraged to gain employment. This discussion was particularly prevalent in stories about higher education.

*“There is a trend toward thinking about professionalizing degrees,” acknowledges Carol B. Lynch, director of professional master's programs at the Council of Graduate Schools. “At some point you need to get out of the library and out into the real world. If you are not giving people the skills to do that, we are not doing our job.”<sup>11</sup>*

*“We need to move aggressively to competency-based education based on mastery of skills at the student's own pace, rather than on an accumulation of credit hours,” said Emily DeRocco, president of the Manufacturing Institute, a research arm of the group.<sup>12</sup>*

Although stories in the sample pointed to individual career readiness as the primary purpose of skill development, they also acknowledged (to a lesser extent) that an educated population benefits the *national* economy.

*Education and retraining are the keys to meeting the challenges, the economists said. Georgia will need a more educated workforce either through increased college attendance or providing those who have fallen off the employment rolls with skills needed for the emerging marketplace. “A crucial element in re-employing people who have lost their jobs is the availability of training opportunities,” said Joey Smith, an economist with the University of West Georgia.<sup>13</sup>*

*What is the most urgent problem facing your jurisdiction? Our education system is in the cross hairs of steep budget cuts across the state. Equipping our children with the skills and tools they need to compete in our knowledge-based economy will be crucial to the continued growth and vitality of Fairfax*

*County. Good schools have a broad impact in our community, including sustaining property values.*<sup>14</sup>

These excerpts demonstrate the tension between the workforce preparation and individual prosperity discourses, and show how the media resolves this tension ultimately in favor of ideas of individual success, trumping considerations of collective benefits. Previous FrameWorks research has shown that the idea of workforce preparation lifts public support for policies aimed to improve skill development and learning processes.<sup>15</sup> The strength of this value, however, is diminished when it is cast in more individualist, career-oriented terms, which is explored in greater depth in the conclusion.

These excerpts also demonstrate that the *purpose* of learning and skill application is framed squarely in *economic* terms. In fact, the benefits of skill acquisition for personal satisfaction and well-being or for the development of healthy relationships received no mentions in the sample. Furthermore, links between learning and civic development were mentioned in only 4 percent of the stories sampled.

### **The Crisis Frame**

Another dominant frame in media stories on skills and learning is what FrameWorks has elsewhere termed the *Crisis* frame.<sup>16</sup> Stories in the sample frequently focused on the education system's "failure" to produce workers with the skills necessary to enter the job market or bolster U.S. competitiveness in the global economy. These stories focused on the "skills gap"—or the distance between the skills U.S. students are learning and the skills required in today's economy. This gap was framed as a crisis when journalists compared U.S. student achievement to that of other countries.

*We believe that the skills gap is a consequence of our failure to seriously invest in the education of America's work force. Without an educated pool of workers from which to hire, small businesses are bearing the financial burden of teaching these skills. John Russo, the president of Scientific Analytical Solutions in North Kingston, R.I., recently talked to the AP about the problem his small business faces: "It's very difficult to find the right person, and there's all walks of life trying to find jobs. I honestly think there's a large swath of unemployable. They don't have any skills at all."*<sup>17</sup>

*"The technology titan's close involvement in the planning and creation of the high-tech high school represents a trend in public-private partnerships in education: As U.S. students fall further behind global counterparts, and as companies seek skilled workers, big businesses like Microsoft Corp., J.P. Morgan Chase & Co. and IBM are taking an active, strategic role in education."*<sup>18</sup>

As further evidence of the *Crisis* frame, stories in the sample overwhelmingly focused attention on the *results* of the skills gap rather than solutions to the problem. These stories laid out an endless string of dire consequences of the education system's failure to prepare students, including burdening small businesses, impeding economic recovery, weakening the United States' competitive edge in the global economy, and increasing the proportion of the population living in poverty. Presenting the consequences as such is a key ingredient in the *Crisis* frame and, as discussed below, is likely to have serious consequences on public thinking about skill development and its relationship to educational reform.

*Here are the frightening stakes: students who do not read proficiently by the end of third grade are four times more likely to drop out than their peers, making literacy one of the strongest predictors of a student's likelihood to graduate high school - an even stronger indicator than students living in poverty.<sup>19</sup>*

*By contrast, roughly 1 million engineers a year graduate from universities in India and China. This education disparity threatens to slow our economic recovery, stunts our long-term competitiveness and leaves technology firms in a skills crisis.<sup>20</sup>*

### **The Individualized Learning Frame**

Media stories about skills and learning contain a strong dose of what FrameWorks terms the *Individualized Learning* frame, or the idea that every child has her own unique learning style and individualized pedagogical needs. As part of this frame, journalists define “good teaching” as the ability to accommodate children with varying levels of ability and different needs, as these excerpts demonstrate.

*What are the obstacles to getting all kids to achieve? All students are capable of achievement; however, each child requires a unique method for achieving his or her personal best. Good teachers get to know their students and how they learn, and they design lessons that meet those individual needs. It takes time to learn those individual differences, but the education of a child is definitely worth the time and effort.<sup>21</sup>*

*Critics, though, say some of the programs can be ineffective because they churn teachers out too quickly and leave them alone in charge of student learning, said Ann Nutter Coffman, senior policy analyst with the National Education Association. She questioned whether teachers who enter the field*

*this way understand how students learn and if they have the techniques to help children at different skill levels.<sup>22</sup>*

As demonstrated in the excerpts above, journalists focus primarily on highlighting *differences* between students rather than identifying learning processes and environments that may benefit *all* students. The media stories analyzed here presented pedagogical strategy as less about finding best practices that are proven effective across heterogenous student populations and more about uncovering individual differences that distinguish students from each other.

Furthermore, these stories offered little explanation as to why such uniqueness exists among students, leaving room for audiences to make their own assumptions about the causes of disparities in skill acquisition.<sup>23</sup> In the few instances in which stories offered explanations, differences were attributed to biologically-determined traits.

*“This is very much a live issue, and I think it's snowballing,” said Galen Sherwin, a staff lawyer for the Women's Rights Project of the A.C.L.U., who is handling the Louisiana case. “I see news stories every single week about new proposals, usually based on the idea that boys and girls learn differently. Often it's people who have attended training programs by Sax or Gurian, saying these programs will cater to boys' and girls' specific learning styles.”<sup>24</sup>*

In this particular article, the effectiveness of sex-segregated education was questioned, but the contention that girls and boys have different learning styles was not. Implicitly and explicitly, media coverage privileged biological rather than social determinants of learning. Students' individual needs were related to innate characteristics of the child, rather than to external factors that shape students' learning and abilities.

While the *Individualized Learning* frame was clearly dominant, there was a less prevalent but more promising thread in the stories sampled. Ten stories (approximately 2 percent of the sample) focused on “student-centered” learning environments. Rather than emphasizing students' inherent uniqueness, this discourse focused on how *context* shapes skill development and how the creation of specific kinds of learning environments can improve skills. The following excerpt exemplifies these infrequent but more productive discussions.

*Digital learning benefits both students and teachers through the enabling of personalized learning. Students can focus on the areas where they need the most improvement, and teachers enjoy increased time, flexibility and knowledge of an individual student's progress. Since children are so used to*

*interacting with digital media, successful teaching methods will involve computer-based learning.*<sup>25</sup>

Because it expands attributions of responsibility for learning beyond the individual child, media coverage of student-centered learning environments better approximates learning experts' attention to social contexts. Unfortunately, these messages are drowned out by commentary on individualized learning styles.

### **Absences**

By and large, the media does *not* reflect expert knowledge about skills and learning. Experts espouse a flexible and interactive model in which higher-order skills like problem solving, information evaluation and critical synthesis transfer across multiple activities and domains. While they recognize the importance of cognitive skills and students' mastery of "the basics," they place equal emphasis on the significance of intra and interpersonal skills and view all of these skills as functionally intertwined. Experts place considerable weight on the importance of learning contexts and argue that providing access to a variety of learning environments to *all* students benefits *each* student's learning. These messages are rarely present in the media.

The following are two specific absences that emerged from analysis of media stories on skills and learning.

**1. There is limited attention to the process of skill development.** The most notable absence in media stories is the lack of direct attention to *how skills develop*. In the sample analyzed here, college or university students were the most frequently mentioned age group (25 percent of articles focused on these students), followed by high school students (21 percent of articles). Journalists tended to list the specific skills that students at the high school and college level need, but avoided analysis of *how* these skills develop. Media stories frequently used words like "standards" but rarely defined the skills required to master these standards or explained how these skills develop. Furthermore, the majority of media coverage around the measurement of skills fell back on the concept of "proficiency" without articulating what it means for a student to become proficient in a given content area.

*Eight states have raised their standards for passing elementary-school math and reading tests in recent years, but these states and most others still fall below national benchmarks, according to a federal report released Wednesday.*

*The data help explain the disconnect between the relatively high pass rates on many state tests and the low scores on the national exams, known as the National Assessment of Educational Progress. In fourth-grade reading, for*

*example, 35 states set passing bars that are below the "basic" level on the national NAEP exam. "Basic" means students have a satisfactory understanding of material, as opposed to "proficient," which means they have a solid grasp of it. Massachusetts is the only state to set its bar at "proficient" -- and that was only in fourth- and eighth-grade math.<sup>26</sup>*

*The law allowed states to adopt local academic standards and determine their own passing scores on tests after it took effect in 2002. The requirement that 100 percent of students be proficient in math and reading by 2014 encouraged lower standards, which make it easier for more students to score as proficient. Since early 2010, however, more than 40 states have agreed to adopt higher standards, and the 2014 deadline is complicating their efforts, Mr. Duncan said. In Tennessee, for instance, 91 percent of students scored at or above the proficient level in math under the state's old standards, but under new, tougher standards adopted recently, the proportion plummeted to 34 percent. "The current law serves as a disincentive to higher standards, rather than as an incentive," Mr. Duncan said.<sup>27</sup>*

## **2. Coverage of non-cognitive skills is thin and focuses on moral development.**

The media's coverage of skills rarely touches on non-cognitive skills. The definition of skills in the media is largely structured by policy debates over federal education standards. The Obama administration's decision to allow states to opt out of the federal proficiency standards mandated by No Child Left Behind (NCLB) was particularly prevalent in the sample. Unsurprisingly, the skills included in the NCLB mandate—reading and math—were the most frequently mentioned skills in the stories analyzed (appeared in approximately forty percent of the coverage).

In the rare instances when non-cognitive domains are broached, the coverage is vague and trained on students' development of "morals." The following excerpts exemplify this thin coverage—both in type and process—of non-cognitive skills.

*Mr. JARELL LEE (Excellence Boys Charter School, Brooklyn, New York): It's our job as teachers to expose them to a new world of new opportunities and give them the confidence and the skills that they need to be successful in life.*

*Catholic schools shaped my spiritual, intellectual and social growth. This included grammar school (where I got a very good education despite having 55 students in my classroom), high school and then college. I remember vividly my third-grade teacher reading to us for a half-hour every day. It started me on a lifelong love of reading. I remember the ethic of service the nuns and lay teachers instilled in me. I was taught that the poor were not to*

*be pitied—they wanted only to be given the opportunity to succeed. And the fortunate had an obligation to help.*<sup>28</sup>

### **Recessive Frames**

These frames represent a very limited portion of the coverage on skills and learning. However, their presence may represent strategic opportunities for communicators to expand this kind of media discourse.

### **The Interactive Learning Frame**

Although there is limited direct discussion of how skills develop, fifteen media stories on skills and learning contained rare depictions of learning as an interactive process. This is a highly recessive frame, but its limited presence provides a model for communicators of how to expand the media discourse related to skills and learning. This frame typically appeared in coverage about specific learning programs or new pedagogical approaches, as evidenced below.

*Rather than lecturing facts to students in one-shot courses, chemistry in 11th grade or biology in 10th grade, their knowledge of biology, physics, earth science and engineering should deepen over time, starting in second grade. All of this should be taught in "cross-cutting" ways that keep students engaged. Submarine ones, built out of LEGOs, the interlocking plastic blocks that many a parent has stepped upon after putting a youngster to bed. "We could teach them a lot of things all at once with them, and to the kids, they are playing with LEGOs," McGrath says. "Kids have a lot of experience with them."*<sup>29</sup>

*Beyond the face value of the original videos, the Khan Academy encourages a concept called the "flipped" classroom. The lecture, via video, becomes the homework while the problem-solving takes place in class, where the teacher can provide more targeted, individual help. At Woodland Park High School, teacher Aaron Sams—along with colleague Jonathan Bergmann—has been flipping the science classroom for several years with the help of videos the duo co-produced. But even the flipped classroom is just a piece of the puzzle, Sams says—an easy first step to wean teachers off the lecture habit. Khan Academy, he adds, provides another good transitional piece. "You still have to be at the top of your game, even more so," Sams says. "You've got more time talking to kids, having conversations, checking the oil. You snag misconceptions before they have time to take root. That's good teaching".*<sup>30</sup>

In these excerpts, journalists draw attention to dynamic and interactive curricula or classroom activities to provide a robust model of skill development, which is largely in line with expert perspectives on this topic. Despite the occasional rich

description of interactive learning environments, however, this analysis shows that learning processes are far more frequently left unexplained.

### **Cognitive Implications**

The following cultural models are likely to become active as Americans are exposed to the media patterns documented above.

- **The purpose of skill development and education more generally are limited to individual financial gain.** FrameWorks has found that the public often defines the goals of education in terms of individual financial gain rather than collective benefits such as civic or workforce development.<sup>31</sup> The individualized instantiation of the *Economic Benefit* frame in the media will activate and further engrain this assumption about the purposes of education. As documented elsewhere in FrameWorks' research on education as well as on issues related to child development, this individualist perspective clouds the collective and non-monetary benefits of *public* education. It also impedes the public's ability to see a host of progressive education reform policies as viable, effective and appropriate ways of improving skills and learning outcomes.<sup>32</sup> In short, the dominance of the individualized *Economic Benefit* frame documented here is highly concerning for progressive education reformers.
- **The education system is beyond repair.** Previous research has documented the public's sense of futility about educational reform and the role that crisis language plays in supporting public inaction.<sup>33</sup> In this analysis, the *Crisis* frame was often invoked as an argument for increased investment in education. According to media commentators, the *size* of the skills crisis obviates immediate action and the allocation of serious resources. Because this crisis is presented as so massive, so devastating and so catastrophic, the use of this frame is likely to increase public skepticism about the possibility of effective reform and contribute to Americans' pessimism, disengagement and cynicism about the possibility of improving the education system. Again, the way in which the *Crisis* frame potentially interacts with public pessimism about the improbability of serious systemic reform should be cause for concern amongst education advocates.
- **Individual learning styles are so unique that no one policy can work.** The idea that learning is an infinitely individualized endeavor is a dominant theme in both media and mind.<sup>34</sup> As a result of this mutually reinforcing cultural model and media frame, a "no size fits all" approach to education is often proclaimed as the only solution to the nation's educational woes. This approach directly contradicts experts' contention that multi-modal learning

- environments benefit *all* students, regardless of differences in skill level or “learning style.” The *Individualized Learning* frame will reinforce the public’s resistance to educational policies and programs that improve education by providing the same opportunities to all children. Clearly, in light of some of the major reform movements in play in the field, this self-reinforcing cycle is highly problematic. Furthermore, when the media connects “learning styles” to innate and personal characteristics, it obscures the ways in which educational policies create specific kinds of learning environments that in turn shape student learning.
- **Let’s get back to the basics.** FrameWorks’ research on education has shown that Americans see the country’s educational problems as the result of straying from a narrow and intense focus on basic skills such as reading, writing, and arithmetic.<sup>35</sup> The consistent reference to “standards” and “proficiency” in media coverage of skills and learning provides only vague information about what skills children need to learn and still vaguer ideas about how these skills develop. This absence will not go unfilled. FrameWorks’ research has shown that when given space to fill in understandings about what skills matter, members of the American public default to a powerful “back to basics” stance. This cultural model creates a perspective in which people look *back* in time for solutions to educational problems and become resistant to innovation. Furthermore, Americans focus on a discrete set of “proficiencies,” such as the ability to read and write, and view other “new” skills as taking valuable educational time away from these “things that really matter.” The power of the media frames to activate these models in mind represents a serious perceptual impediment for education reform policies such as the development of 21<sup>st</sup> century skills and “higher-order learning,” the creation of student-centered learning environments, and the creative use of digital media in educational contexts.
  - **Room for interactivity.** Although recessive in both places, there does appear to be productive confluence between media frames and models in mind in regards to the importance and benefits of “hands-on,” interactive learning.<sup>36</sup> The media’s limited focus on interactivity suggests that there is room to build this discourse out into a more dominant theme in the media. If this were to happen, the connections between culture in media and culture in mind<sup>37</sup> would suggest that the extant ways that Americans have of thinking about learning as having to be experiential and hands-on would be pulled forward and might begin to push more passive understandings of learning into the cognitive background. This cognitive maneuver would benefit all experts and advocates who wish to message about more effective approaches to learning and teaching. Expanding the use of the *Interactive*

*Learning* frame therefore stands to improve the public's understanding of how children learn as well as the benefits of interactive learning.

## **Conclusion and Implications**

Media coverage of skills and learning defines the importance of skill development as individual financial gain, continually warns of the impending skills crisis, and draws attention to students' inherent abilities rather than of the role of context in the learning process. Furthermore, education journalists and commentators list rather than define skills, and focus on the results of lack of skills rather than on how learning and skills development actually happen or could be improved. These patterns activate existing cultural models about what skills are, how they develop, and what they are used for that have been shown to impede productive consideration of many key education reform issues.

In addition to documenting the problems associated with the media's coverage of skills and learning, this analysis offers concrete suggestions for education experts and advocates who message about skills and learning. Skills and learning experts should use their media opportunities to provide explanations about what skills are and how they develop that are currently missing from the coverage. The analysis also shows that space exists to discuss skills development in the context of interactive "hands-on" learning. Interactive models of learning were most likely to appear in articles that covered specific learning initiatives and specific classroom activities, indicating that—in addition to explaining how skills develop—communicators should be prepared to provide journalists and other media commentators with concrete examples of how this type of learning can be better incorporated into classrooms and schools and how such programs actually serve to improve learning outcomes. In short, there is opportunity to talk about experiential learning, but communicators must make explicit the connections between these ways of learning, learning contexts and learning outcomes.

The media both reinforces and is reinforced by the public's model of individualized learning, which tends to attribute skills development to individual talents or gifts. Communicators therefore should focus actively on shifting the public's focus to the importance of learning environments in learning outcomes. Placing more emphasis on learning environments can move the public conversation beyond individual differences, and creates a communications space to talk about how educators, policy makers, and the public in general can and have the responsibility to shape those environments.

Workforce preparation is dominant in the public discourse about skills and learning and exists in the current media coverage as part of the *Economic Benefit* frame. If

the value of workforce preparation can be pulled out of and away from the individual bent of the Economic Benefit frame and attached to arguments about future preparation and the common good of the nation, FrameWorks research suggests that it has the power to boost public support for a progressive reform agenda.<sup>38</sup> However, those attempting this maneuver should be wary as the notion of workforce preparation has two dangerous tendencies: it easily attaches to the discourse about individual economic success (as documented here), and media commentators tend to make the case for workforce preparation by emphasizing the skills crisis. Both tendencies undercut the role of public policy in creating quality learning environments. We recommend that communicators execute the workforce preparation value in ways that highlight the economic development of communities and encourage solutions thinking.

## Methods Appendix

This research is guided by two primary goals: (1) examine how topics related to skills and learning are regularly treated in the media, and (2) explore the likely impact of these patterns on the public's thinking. In order to address these goals, the analysis is divided into two stages: (1) a content analysis based on a qualitative and quantitative examination of media materials that reference skills and learning, and (2) a cognitive analysis of the media frames identified in relation to findings from previous cultural models research. Descriptions of the data and analytical techniques are provided below.

### Media Content Analysis

A recent Pew Center study suggests that by and large Americans receive their daily news from a combination of newspapers (both print and online) and broadcast news sources.<sup>39</sup> Sample selection in the current study was based on this assumption and included materials taken from national newspaper articles, television broadcasts as well as three news blogs representing a span of political perspectives. Using the LexisNexis, Factiva and Google News databases, specific news sources were selected based on circulation/viewership statistics and geographical and political diversity. The sample was drawn from the following print sources: *The Washington Post*, *USA Today*, *San Jose Mercury News*, *New York Post*, *The New York Times*, *Los Angeles Times*, *Houston Chronicle*, *The Denver Post*, *Chicago Sun-Times*, and *The Atlanta Journal-Constitution*. Sources used to construct the sample also included national television newscasts from ABC, CBS, NBC, CNBC, MSNBC, CNN and FOX News Network, and the Huffington Post, Daily Beast, Salon, National Review and Hot Air blogs. The study sample was selected from these sources over a one-year period from October 1, 2010, to October 1, 2011.

Articles were captured from the databases if they included at least five mentions of the words "education" or "learning." This threshold of number of mentions ensured that the articles squarely dealt with issues related to education and learning and avoided flooding the sample with articles that mentioned education in passing, but that were not focused on educational content or issues. The search strategy was also designed to be sufficiently broad so as to capture articles that covered a wide range of educational issues and allow for analysis of the more specific educational issue areas detailed above. The initial capture procedure yielded 1,346. Each of these articles was assigned a number and researchers used a random number generator to 570 articles that comprised the final study sample. Of these articles 259 dealt squarely with issues related to skills and learning and were included for analysis for this report.

The media content analysis was conducted in two stages. First, FrameWorks researchers developed a codebook based on standard coding categories utilized in previous FrameWorks content analysis research and in the framing literature more generally.<sup>40</sup> Those categories include:

- (1) storytelling style (episodic vs. thematic)
- (2) tone
- (3) section of the newspaper
- (4) age-group, race and ethnicity and socioeconomic status of the students mentioned
- (5) types of messengers/experts cited
- (6) values
- (7) mentions of specific policies and programs

In addition to the codes above, each article was coded for whether or not it addressed the following areas of interest: skills and learning, assessment, educational disparities, structure of the educational system, and educational policies and programs.

After the codebook was developed, three researchers were trained in its application. To test for intercoder reliability, each researcher coded a set of 25 randomly selected pieces from the sample. The researchers achieved an intercoder reliability score of 0.8 using Holsti's coefficient—indicating a respectable 80 percent agreement across the coded themes.<sup>41</sup> After the reliability test, FrameWorks researchers coded the remaining articles and subjected the resulting quantitative data to statistical analysis examining the frequency of codes within each category. In addition, selected cross-tabulations were computed to examine relationships between codes.

In the second stage of analysis, the sample was divided into the areas of interest and each area was subjected to a qualitative analysis of dominant narratives. In this stage, researchers analyzed the dominant frames that structured media discussion about skills and learning, assessment, educational disparities, structure of the educational system, and educational policies and programs. The results of each of these analyses are reported in separate reports, with a summary report that characterizes the entire data set and documents the overarching set of frames that transcended specific issue areas.

## **Cognitive Analysis**

The cultural models findings referred to in this document are based on over 60 one-

on-one, semi-structured interviews conducted between 2008 and 2012 on issues related to education including education and education reform, digital media and learning, skills and learning, and assessment. Consistent with interview methods employed in psychological anthropology, cultural models interviews are designed to elicit ways of thinking and talking about issues.<sup>42</sup> Patterns of discourse, or common, standardized ways of talking, were identified across the sample using a basic grounded theory approach to thematic analysis. These discourses were then analyzed to reveal tacit organizational assumptions, relationships, propositions and connections that were commonly made, but taken for granted throughout an individual's transcript and across the sample. In short, analysis looked at patterns both in what was said (how things were related, explained and understood) as well as what was not said (shared, but taken-for-granted, assumptions).

Finally, to examine expert messages on education and learning, FrameWorks researchers conducted 20 one-on-one, one-hour phone interviews with experts from the fields of education, psychology and early childhood development. These interviews were conducted in late 2011 to 2012 and, with participants' permission, were recorded and subsequently transcribed for analysis. To locate experts, FrameWorks surveyed a group of leading foundations working on education issues.

In the cognitive component of this analysis, FrameWorks researchers compared findings from the media analysis with results from the cultural models interviews in order to examine how media frames are likely to intersect with the cultural models that currently inform public thinking. This analysis addresses multiple patterns of intersection, including how media frames might (1) cue and strengthen existing cultural models, (2) conflict with or challenge existing models, and/or (3) fail to address a topic such that extant patterns of thinking are left to "fill in the blanks." The analysis also provides an etiological understanding of dominant media frames, as the relationship between frames in media and culture in mind is not unidirectional.<sup>43</sup> In this way, the media analysis enables FrameWorks to identify the likely cognitive impacts of media framing and to formulate strategic recommendations for experts and advocates who communicate about education and learning.

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- <sup>4</sup> Shore, B. (1996). *Culture in mind: Cognition, culture, and the problem of meaning*. New York: Oxford University Press. See also, Holland, D. C. and Quinn, N. (1987). *Cultural models in language and thought*. Cambridge: Cambridge University Press.
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- <sup>6</sup> Lindland, E., Kendall-Taylor, N., Baran, M., O'Neil, M., & Simon, A. (2012). *Mapping the gaps on skills and learning: A core story of education report*. Washington, D.C.: FrameWorks Institute.
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- <sup>8</sup> Ibid.
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- <sup>37</sup> "Culture begins in the paradox of doubleness. In the universe of cultural forms, what is now in the head was first in the world; and what is now in the world, was first in someone's head." Shore, B. (1998). *What culture means, how culture means*. Worcester, MA: Clarke University Press.

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- <sup>43</sup> See Shore, B. (1998). How culture means (The Heinz Werner Lectures). In T.C.U. Press. (Ed.). Worcester for a discussion of the "double birth of meaning."