Partnership for 21st Century Skills

21st Century Readiness for Every Student:
A Policymaker's Guide

PRINCIPLES AND RECOMMENDATIONS FOR
REAUTHORIZING THE ELEMENTARY AND SECONDARY EDUCATION ACT

NEW GLOBAL DEMANDS REQUIRE COLLEGE AND CAREER READINESS

Americans are competing in a global economy that demands workforce innovation. Our education policies must help *all* students keep up with these demands. There is a growing achievement gap between U.S. students and their international peers. Our economic competitiveness suffers when our students do not possess the knowledge of core subjects *and* the critical skills necessary for college and career readiness in the innovation economy of the 21st century.

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21st Century Readiness for Every Student

What Is 21st Century Readiness?

For students to succeed in college and careers, they must be able to learn, apply and adapt in all subjects. The Partnership for 21st Century Skills (P21) believes that 21st century readiness is within reach of every student if our schools incorporate essential, higher-order thinking skills into all core subjects*.

THESE SKILLS INCLUDE:

- **Critical thinking and problem solving**
- **Communication**
- **Collaboration**
- **Creativity and innovation**

Core subject knowledge and higher-order thinking skills should be indivisible. Mastery of core subject knowledge and higher-order thinking skills should be measurable—and a basis for student outcomes and accountability under federal law.

Students, parents, employers, and K–12 and higher education professionals agree that integrating higher-order thinking skills and core subjects makes learning more rigorous, relevant and engaging. Both core subject knowledge and skills are necessary for readiness in college, work and life.

Preparing all students with content knowledge and essential skills will empower them to meet new global demands.

VIEWPOINTS ON COLLEGE AND CAREER READINESS

Students need skills to learn and study—and keep learning throughout their lives. And they need "college knowledge" to gain admission to and navigate the postsecondary system, according to extensive research by David T. Conley (*College and Career Ready: Helping All Students Succeed Beyond High School*, 2010).

Students can learn core subject knowledge and higher-order thinking skills through career exploration in career and technical education programs, work-based learning experiences, or both (Association for Career and Technical Education, National Association of State Directors of Career and Technical Education Consortium, Partnership for 21st Century Skills, 2010).

* Core subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics.

Where Do We Stand on 21st Century Readiness?

Americans recognize that we are living in a competitive world, we are all globally connected and we all need a greater understanding or experiences with other cultures. "The world is flat," as Thomas Friedman of *The New York Times* puts it.

But we haven't committed to adjusting education policy to make K–12 education relevant in a flat world. National education policy has been looking in the rear-view mirror to determine if all schools and students are performing up to last century's standards. This has been useful—because we know that many of them have far to go to reach these standards.

But this emphasis is not enough. We need to commit to a more important goal than rooting out underperformance. We also need to determine whether every child is ready to contribute in a competitive, interconnected world. We need to commit to 21st century readiness for every student.

The bottom line: We can't expect to remain globally competitive if our students aren't.

What Does 21st Century Readiness Look Like in a Reauthorized Elementary and Secondary Education Act (ESEA)?

A focus on mastery of core subjects and higher-order thinking skills will:

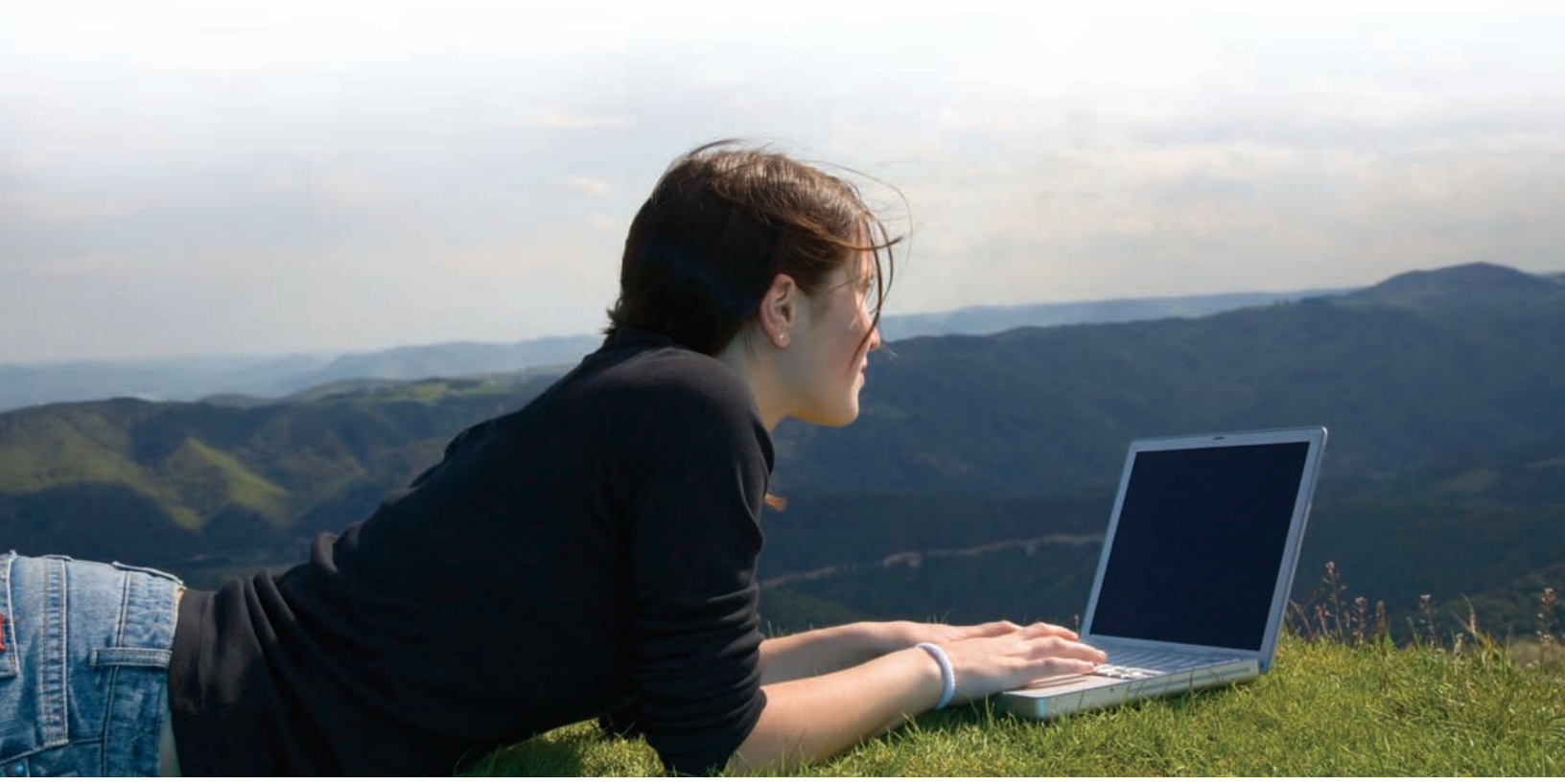
Raise the bar on standards by redefining expectations for students

Reframe the means of assessment and accountability around these standards

Ensure that all educators have access to high-quality professional development that helps engage students in meaningful learning experiences

Provide meaningful data through research and development

ESEA would define college and career readiness specifically to include the integration of core subject knowledge and higher-order thinking skills. The Act also would set criteria for several programs funded under it to achieve these outcomes.



What Is the Purpose of This Guide?

This guide will help policymakers understand and define the principles behind fusing core subject knowledge and higher-order thinking skills.

Recommendations that reflect these principles will help policymakers support 21st century readiness for all students throughout a reauthorized ESEA and other federal legislation.

"Top of Mind" Skills for a Fast-Paced, Global Economy

In the 2010 Critical Skills Survey by the American Management Association and P21, employers say they need a workforce fully equipped with skills beyond the basics of reading, writing and arithmetic to grow their businesses, including:

CRITICAL THINKING AND PROBLEM SOLVING

The ability to make decisions, solve problems and take action as appropriate

EFFECTIVE COMMUNICATION

The ability to synthesize and transmit ideas in both written and oral formats

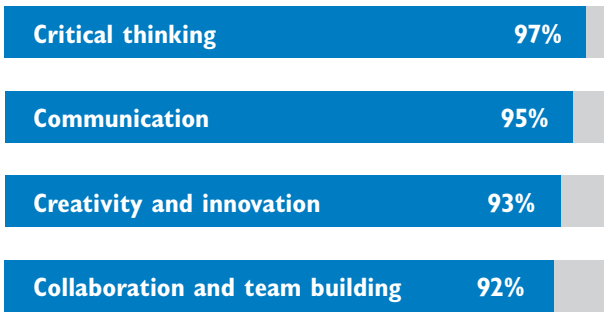
COLLABORATION

The ability to work effectively with others, including those from diverse groups and with opposing points of view

CREATIVITY AND INNOVATION

The ability to see what's not there and make something happen

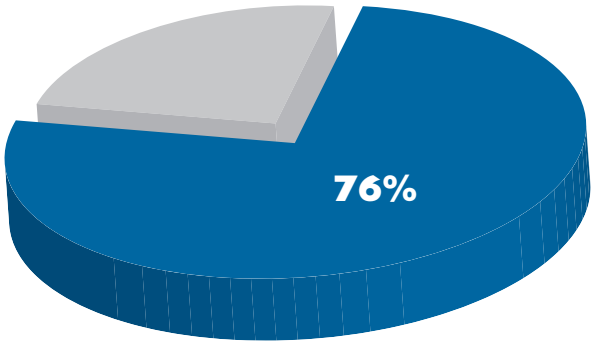
For Economic Rebound, Employers Look for More Skilled Workers



Percentage of employers who rated these skills as "most important" or "somewhat important" in helping to grow their organizations as the economy improves

Source: AMA 2010 Critical Skills Survey

Employers Anticipate Increasing Need for Higher-order Thinking Skills



Percentage of employers who believe critical thinking and problem solving, communication, collaboration, and creativity and innovation will become more important in the next three to five years

Source: AMA 2010 Critical Skills Survey

These findings echo similar perspectives in a 2006 employer survey, *Are They Really Ready to Work?*, from the Conference Board, P21, Corporate Voices for Working Families and the Society for Human Resource Management.

Then as now, employers said that the United States is not doing enough, fast enough, to prepare for a vibrant economic future for our children and our nation.

If "excellence" is the standard for global competition, according to this survey, high school graduates are "deficient" in applied skills, including written communications, critical thinking and problem solving.

WHAT SKILLS ARE NEEDED FOR COLLEGE AND CAREER READINESS

- **Core subject knowledge**
- **Critical thinking and problem solving**
- **Communication**
- **Collaboration**
- **Creativity and innovation**

Standards:

Fuse Core Subject Knowledge and Essential Skills

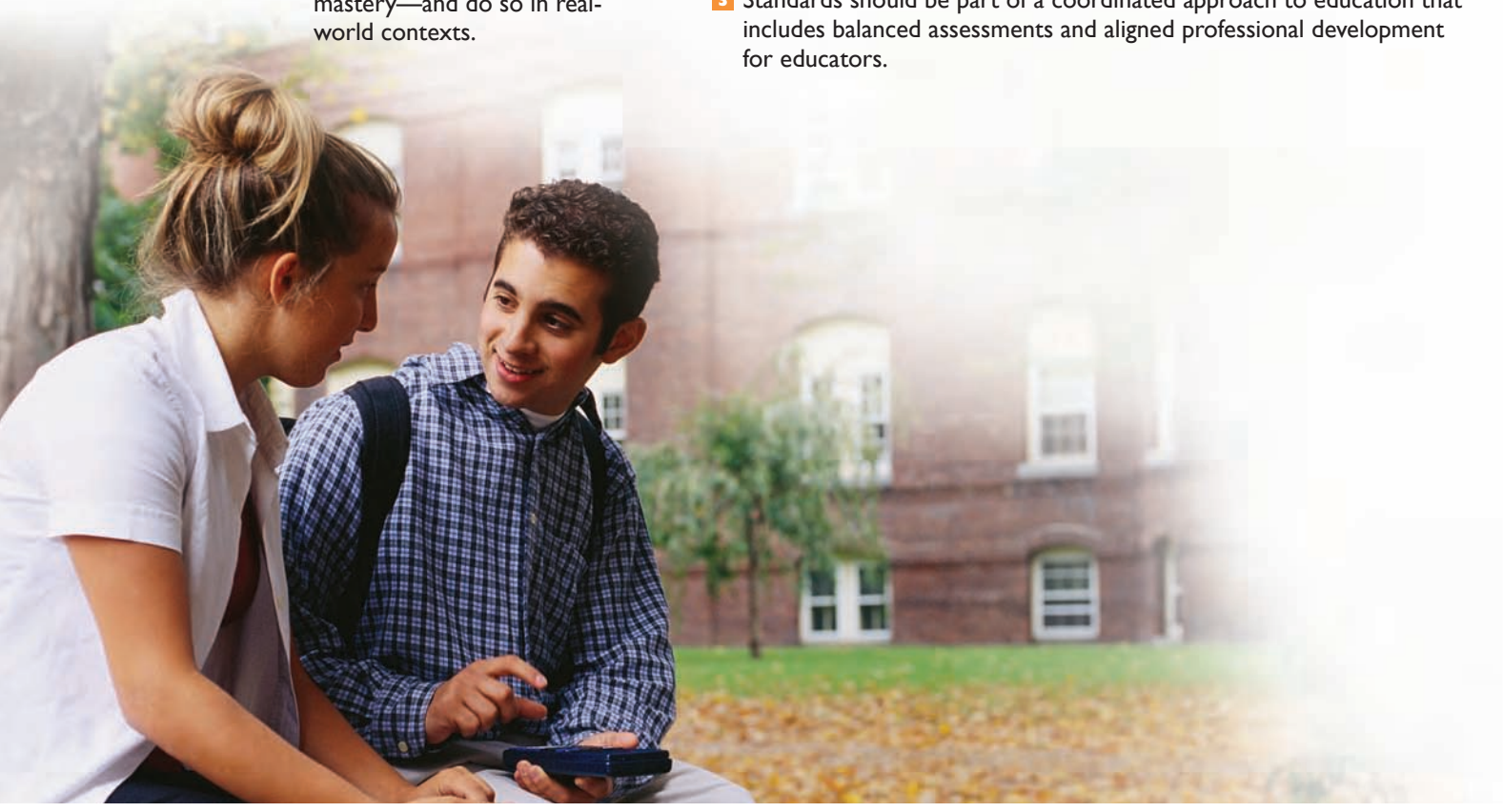
The definition of college and career readiness must go further than the goal of eliminating the need for college remedial coursework for high school graduates, as proposed by the Administration's *A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act.*

Readiness for college and careers should indicate that a student is able to apply a range of skill competencies alongside content knowledge mastery—and do so in real-world contexts.

Adopting the "higher and clearer," more focused Common Core State Standards will allow schools more flexibility to get to better student learning outcomes. All state standards should include essential, higher-order thinking skills. It is a national imperative that our standards, assessments, and accountability systems and supports be benchmarked against this expanded definition.

PRINCIPLES

1. The reauthorized ESEA should define college and career readiness as mastery of core content knowledge *and* competencies in essential, higher-order thinking skills. The Act should specify the fusion of the full range of core subjects and essential skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation. The Act should state that core subject mastery and skills competencies should be the principal student outcomes that define success.
2. The reauthorized ESEA should support accommodations for states, so that developing more challenging standards does not threaten any state's ability to meet accountability criteria.
3. Standards should be part of a coordinated approach to education that includes balanced assessments and aligned professional development for educators.



Assessment:

Measure Mastery of Core Subjects and Essential Skills

The next generation of state assessments should promote 21st century learning.

These assessments must strive to measure mastery of core subjects as well as higher-order thinking skills that align with college- and career-ready standards.

These assessments should be built to support and inform instruction, provide accurate information about what students know and can do, and measure student achievement against standards designed to ensure that all students gain the knowledge and skills needed to succeed in college and the workplace.

PRINCIPLES

1. The reauthorized ESEA should address the breadth and depth of college- and career-ready standards, as well as all areas of the curriculum, by requiring assessments that measure core subject knowledge mastery and higher-order thinking skills in large-scale summative tests. The Act also should support the development of these new assessments.
2. Assessment developers should consider the needs of all students as an integral part of the design process, anticipating particular student needs and developing assessments that encourage all students to demonstrate what they know and apply what they can do.
3. The Act should specify that educators should honor the research indicating that students learn best when given challenging curriculum and provided with assistance, guidance and feedback on a regular basis.
4. The Act should support educators in employing a variety of appropriate measures, instruments and processes at the classroom, school and district levels, as well as the state level. These include multiple forms of assessment and incorporate formative, interim and summative measures.
5. Teachers should be engaged in scoring work based on shared targets.

> **"To be on track today for college and careers, students need to show that they can analyze and solve complex problems, communicate clearly, synthesize information, apply knowledge, and generalize learning to other settings."**
>
> ARNE DUNCAN, US SECRETARY OF EDUCATION, SEPTEMBER 2, 2010

Professional Development:

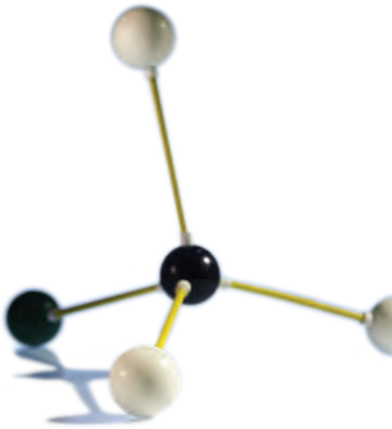
Redesign Pre-service and In-service Education to Support 21st Century Learning

It will be difficult for students to master competencies gained by the fusing of core subject knowledge and higher-order thinking skills unless educators are well trained and supported in student-centered, authentic, engaging and personalized instruction.

Pre-service education for educators must be redesigned to include more clinical experience in classrooms, guided by mentor educators who support emphasis on deeper learning. Allocating significant time for in-service education for educators, including common planning periods and reflection, is needed and could allow for better understanding of more innovative approaches and the use of technology to better instruction.

PRINCIPLES

1. The reauthorized ESEA should support states in retooling pre-service and in-service professional development to better prepare educators to deliver instruction that fuses core subject knowledge and essential, higher-order thinking skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation.
2. The reauthorized ESEA should support investment in technology and broadband connectivity to improve educators' access to digital content, collaborative communities, and online applications and tools. Access to these global resources supports best practices in instruction, which are essential for developing the knowledge and skills required of a well-prepared workforce.
3. The reauthorized ESEA should support states in identifying, developing and supporting mentor teachers. Identification of mentor teachers should reflect their demonstrated abilities to integrate instruction in core subject knowledge and essential, higher-order thinking skills.
4. The reauthorized ESEA should allow teachers, administrators and education support staff to construct their own learning communities. The Act should support the development and sustainability of these learning communities.



Research and Development:

Support Innovation with Scientific Inquiry and Evidence

The most effective, research-based solutions should be implemented on a large scale to help close the nation's achievement gaps and restore America's global competitiveness.

Under current federal policy, the research and development infrastructure for education cannot yet fully assess the academic and skills expectations for college and career readiness. Traditional accountability assessments typically were not designed to measure higher-order thinking skills including critical thinking and problem solving, communication, collaboration, and creativity and innovation. A new federal approach—and sustained federal investment—in research and development is critical for realizing the potential of a growing innovation revolution in teaching and learning. The islands of success and excellence that exist in K–12 education now should be used as focal points to invigorate research and development and deliver fundamental scientific evidence on promising practices.

Strong anecdotal evidence and leading models already show that fusing core subject knowledge and higher-order thinking skills such as critical thinking and problem solving, communication, collaboration, and creativity and innovation make teaching and learning more rigorous, relevant and engaging. While measuring all of these skills is as yet a work in progress, it is nonetheless important work that deserves further research and development.

PRINCIPLES

1. The reauthorized ESEA should support research and development to identify best strategies and practices for delivering instruction that fuses core subject knowledge and higher-order thinking skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation.

2. Research and development should be encouraged—and funds should be authorized—to make the best use of technology to:

   - Deliver assessments
   - Provide adaptive assessments that better measure students' abilities and evaluate student growth in mastery of core subject knowledge and higher-order thinking skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation
   - Score open-ended, constructive responses on assessments

3. The U.S. Department of Education's Institute of Education Sciences should be required to elaborate on current research with additional rigorous scientific work focused on the connections of core subject mastery and higher-order thinking skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation to college and career readiness.

4. The U.S. Department of Education's Institute of Education Sciences should be required to identify and capture successful models that fuse core subject mastery and higher-order thinking skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation. This research-based evidence should be made more accessible—and useful for scaling up successful models—to educators, policymakers and communities nationwide through Comprehensive Assistance Centers and Regional Education Laboratories.

5. Assessment research should be developed in coordination with the National Assessment Governing Board, which oversees the National Assessment of Educational Progress (NAEP), so that U.S. students can be compared to their international peers in terms of competencies gained by fusing core subject knowledge and higher-order thinking skills, such as critical thinking and problem solving, communication, collaboration, and creativity and innovation.

Key Initiatives

The Administration's *A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act* proposes numerous changes to the law, such as:

- New sources of competitive grant programs modeled after those created by the American Recovery and Reinvestment Act of 2009
- Renaming and consolidations of existing programs
- Identification of many cross-cutting priorities relevant in education reform

If the U.S. Congress moves forward with any of these proposals, higher-order thinking skills should be embedded in any new or changed programs and reflected in priorities to be carried out by the U.S. Department of Education.

PRINCIPLES

1. The Race to the Top program should recognize and support as part of its core mission those state reform initiatives and plans that specifically fuse core subject knowledge and higher-order thinking skills.
2. The Investing in Innovation program should recognize and support as part of its core mission those state reform initiatives and plans that specifically fuse core subject knowledge and higher-order thinking skills.
3. All consolidated and restructured programs should recognize and support, as part of their eligibility priorities and authorized uses of funds, plans that specifically fuse core subject knowledge and higher-order thinking skills (such as 21st century readiness initiatives).

Conclusion

The public debate about the reauthorization of the Elementary and Secondary Education Act and related education legislation presents a tremendous opportunity for policymakers to support 21st century readiness for *every* student.

There is widespread public support and a strong research base for preparing students with the essential knowledge and skills they need to succeed in a competitive, interconnected world. The time to act is now.

We call upon political candidates and policymakers to advocate the strategic directions for 21st century readiness outlined in this policymaker's guide. We urge lawmakers to commit to the recommended changes to federal policy when the 112th U.S. Congress convenes in 2011.

Recommendations: Support 21st Century Readiness in the ESEA Reauthorization and Other Legislation

STANDARDS

1 Amend Section 1001 of the No Child Left Behind Act of 2001 (P.L. 107-110) under the Statement of Purpose of Title I to say, in part, that college and career readiness can be accomplished by fusing core subject knowledge mastery and higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation), to ensure that students can apply a range of skill competencies alongside content knowledge, and do so in real-world contexts.

2 In the authorization of appropriations and throughout the many requirements for carrying out Title I, Part A, of ESEA, allow funds to be used for grants and subgrants to state and local education agencies with plans (such as 21st century readiness initiatives) that incorporate higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) into standards, assessments, accountability and educator quality.

3 Allow for or establish a new matching incentive grant program in ESEA—such as the 21st Century Skills Incentive Fund Act called for in S. 1029, or similar legislation—to help fund states that have plans or encourage states that want to have plans (such as 21st century readiness initiatives) that incorporate higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) into areas of aligned standards, assessments, accountability and educator quality.

ASSESSMENT

1 In the eligibility for authorized appropriations for state assessments under Section 6111 of the No Child Left Behind Act of 2001 (P.L. 107-110), allow states to develop large-scale summative, interim and formative assessments to measure content knowledge and higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and innovation) to ensure that students can apply a range of skill competencies alongside core subject knowledge, and do so in real-world contexts.

PROFESSIONAL DEVELOPMENT

1 Amend Section 2102 of the No Child Left Behind Act of 2001 (P.L. 107-110) to include the following definition of high-quality professional development: "High-quality professional development should exist as part of an aligned system of teaching and learning that includes 21st century skills standards, curriculum, instruction and assessments. Successful high-quality professional development initiatives around 21st century skills: a) ensure that educators understand the importance of 21st century skills and how best to integrate them into daily instruction; b) enable collaboration among all participants; c) allow educators to construct their own learning communities; d) tap expertise within a school or school district through coaching, mentoring and team teaching; e) support educators in their role as facilitators of learning; and f) use 21st century technology tools."

2 Amend Section 2122 and Section 2123 of the No Child Left Behind Act of 2001 (P.L. 107-110) to allow applications and use of funds for subgrants to local education agencies to include activities that help prepare and train educators to deliver instruction on higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) to ensure that students can apply a range of skill competencies alongside core subject knowledge, and do so in real-world contexts.

RESEARCH AND DEVELOPMENT

1 Amend Section 115 of the Education Sciences Reform Act of 2002 (P.L. 107-279) to include as a priority for the Institute of Education Sciences a focus on determining the best ways to teach and assess higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation).

2 Amend Section 133 of the Education Sciences Reform Act of 2002 (P.L. 107-279) to include, either as a duty of the National Center for Education Research or as a topic of research under its National Research and Development Centers, a need to carry out research to determine the best ways to teach and assess higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation).

3 Amend Section 153 of the Education Sciences Reform Act of 2002 (P.L. 107-279) to include, as a duty of the National Center for Education Statistics, a need to collect, report, analyze and disseminate statistical data related to the teaching and assessment of higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation).

4 Amend Section 172 of the Education Sciences Reform Act of 2002 (P.L. 107-279) to require the Commissioner for Education Evaluation and Regional Assistance to widely disseminate information—to state and local education agencies, institutions of higher education, the public, the media, voluntary organizations, professional associations, and other constituencies—on scientifically valid research, statistics and evaluation relating to educational practices that fuse core subject knowledge mastery and higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation).

5 Amend Section 174 of the Education Sciences Reform Act of 2002 (P.L. 107-279) to include the teaching and assessing of higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) as a central mission and primary function of each of the Institute of Education Science's regional education laboratories when supporting applied research, development, wide dissemination and technical assistance.

6 Authorize the development of an assessment in coordination with the National Assessment of Educational Progress (NAEP) that can compare U.S. students to their international peers in terms of competencies gained through fusing core subject knowledge mastery and higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation).

KEY INITIATIVES

1 Include in a proposed authorized Race to the Top program, modeled after the Race to the Top program authorized by the American Recovery and Reinvestment Act of 2009 (P.L. 111-5), eligibility criteria that will allow states to compete for authorized and appropriated grant funding for plans (such as 21st century readiness initiatives) that incorporate higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) into areas of standards, assessments, accountability and educator quality.

2 Include in a proposed authorized Investing in Innovation program, modeled after the Investing in Innovation program authorized by the American Recovery and Reinvestment Act of 2009 (P.L. 111-5), eligibility criteria that will allow states to compete for authorized and appropriated grant funding for plans (such as 21st century readiness initiatives) that incorporate higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) into areas of standards, assessments, accountability and educator quality.

3 Amend eligibility criteria for programs proposed to be consolidated into Effective Teaching and Learning programs in literacy, STEM (science, technology engineering and mathematics) and well-rounded education to allow states to compete for authorized and appropriated grant funding for plans (such as 21st century readiness initiatives) that incorporate higher-order thinking skills (such as critical thinking and problem solving, communication, collaboration, and creativity and innovation) into areas of standards, assessments, accountability and educator quality.

4 Include 21st century readiness for every student as a cross-cutting priority for the U.S. Department of Education.

OUR MISSION

To serve as a catalyst to position 21st century readiness at the center of US K12 education by building collaborative partnerships among education, business, community and government leaders.

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