K-12 Education: A Key Factor in Innovation and Competitiveness

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What is the Council on Competitiveness?

➢ Founded in 1986 by John Young, Hewlett-Packard CEO and Chairman of President Reagan's Commission on Industrial Competitiveness
➢ Mission: to increase productivity and promote a rising standard of living for all Americans.
➢ Today, the Council is the only non-profit, nonpartisan forum convening the nation's top CEOs, university presidents, labor leaders
➢ Comparative advantages
  – Do not lobby
  – Members cut across all industrial sectors
  – Members include all major R&D universities

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Council's Innovation Platform

➢ Since mid-80s, the Council has been working in a public-private partnership to strengthen the platform for innovation in the U.S. – productivity growth and quality of life.

➢ The Council's innovation platform is comprised the following building blocks:

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National Innovation Platform

– **People – K-12; community colleges; workforce; skills**

– **Investment in R&D and new knowledge creation**

– **Capital, personal savings, and tax and fiscal policies**

– **Flexible business environment (e.g.business-friendly regulatory environment, sound competition policy and effective intellectual property protection)**

– **Expansion and participation in the global market**

– **Collaboration among key public and private sectors**

– **Infrastructure – physical, digital, energy, transport/logistics**

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Building Public-Private Partnerships: The Council's Innovation Agenda

Ongoing Activities
- Elevating Innovation to a First-tier Economic Imperative
- Flagship Product: Benchmarking U.S. Competitiveness
- Shaping the Congressional Debate

Strategic New Initiatives
- National and Regional Innovation
- Global Issues Initiative
- Competitiveness and Security

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Regional Innovation Imperatives

The Council developed a regional innovation checklist and the types of actions that states and communities can take to foster clusters growth and evolution:

1. Inventory Your Assets
2. Build on your Strengths
3. Invest in Research
4. *Build the Talent*
5. Seed Innovation Capital
6. Strengthen your Infrastructure
7. Create Connections
8. Identify Private-Sector Champions
9. Think Economically, not Politically
10. Take the Long View

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Invest in Research

➢ New ideas represent new opportunities.

➢ Investments in laboratories and universities generate cutting-edge research that supports innovation-based growth and the workforce that puts the research into action and fuels the local and state innovation economy.

➢ It is not surprising that fast-growth companies are often disproportionately concentrated around major universities.

➢ Finally, universities and research centers can institutionalize entrepreneurship, ensuring continuing commercialization of new knowledge.

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Build Your Talent

➢ Companies are constantly shifting resources worldwide in search of qualified talent.

➢ Successful clusters need a deep talent base:
  – solid K-12 schools,
  – a steady supply of college-educated workers, and
  – agile community colleges that can respond rapidly to specific skill-set needs.

➢ Professional science masters project

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Strengthening K-12 Science & Math Education

➢ Key Challenges to boosting science and math education
  – Unfocused math and science curriculum
  – Weak math and science graduation requirements
  – Limited use of highly effective classroom practices
  – Shortage of qualified math and science teachers
  – Insufficient integration of IT in the classroom

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Strengthening K-12 Science & Math Education: Key Policy Priorities

  – Strengthen teacher quality and quantity
    ● Require major/minor in math and science;
    ● Provide scholarships/incentives to science, math and technology professionals seeking new careers as teachers;
    ● Establish innovative programs through public/private partnerships to increase teacher compensation and training
    ● Professional development for math and science teachers.
  – Improve math and science curricula
  – Require high standards and assessments

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U.S. Competitiveness Index: K-12 Science & Math Education is Key Component

➢ A nation's ability to commercialize innovation and future productivity growth rests on skills of workers. Skill requirements are increasing.

➢ Priorities include:

   – Improve math and science education

   – Provide access to IT for all students

   – Raise participation of minorities—goal of high school education for all not met. 12% college age population in US do not complete high school and more than 35% Hispanic students do not.

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Skills are important to productivity growth

Increased Skills Boost Productivity

Contribution of Increased Skills to Labor Productivity

Percent of Contribution of Skills to Labor Productivity

	1968-73	1973-79	1979-90	1990-97

Source: U.S. Department of Labor, Bureau of Labor Statistics, TED Archives.

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Goal of High School Education For All Has Not Been Met in the United States

Percent of 25-29 Year Olds Not Completing High School
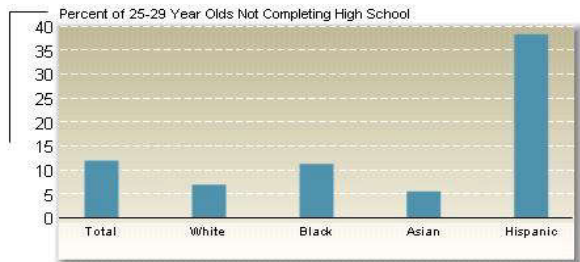
Source: U.S. Census Bureau, Current Population Reports, *Educational Attainment in the United States,* August 2000.

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Student math and science achievement declines over time

TIMMS Scores -- Relative U.S. Performance Versus Other Countries
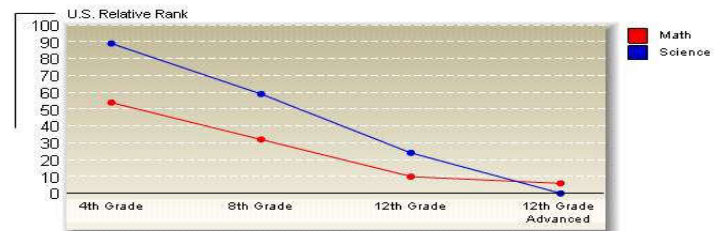
Math
Science

Source: IEA, Third International Math and Science Study.

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Many teachers lack adequate math & science preparation

Percent of Public School Math and Science Teachers without a Major or Certification in Class Subject, 1993-94.
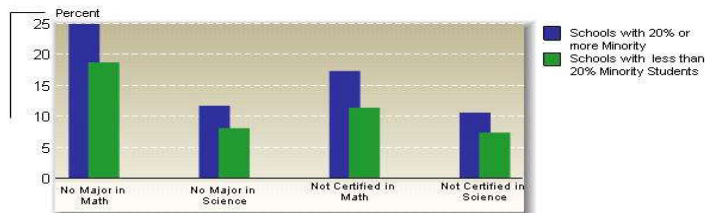
Source: National Center for Education Statistics, *Schools and Staffing Survey*, 1993-94 (Teacher Questionnaire).

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Identify Private Sector Champions

➢ While government and universities play a key role in successful regional development including improving K-12 and the talent pool, the private sector drives the process.

- Companies can identify education as a key element of economic growth and solicit government support.
- Initiatives driven by business leaders are often less likely to be politically polarized.

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Getsmarter.org

- Web-Based Math and Science Assessment & Learning for K-12
- Co-chaired by Executive Committee members Al Berkeley, Vice Chair of NASDAQ and Richard Atkinson, President of University of California
- Mission: Strengthen K-12 math & science education and ignite excitement for these subjects

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Getsmarter.org

- Free, no-risk K-12 self assessment
- With international benchmarking
- Linked with learning and self improvement in fun interactive environment
- Leverage for reform in math and science education
- WWW.Getsmarter.org

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No Child Left Behind Act

- Landmark legislation for K-12 education

- Accountability & performance-based

- More funding for teacher training programs

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National Center on Regional Innovation and Competitiveness

- New partnership with the National Governor's Association and Commerce's Economic Development Administration. The Council received a two-year EDA grant to develop a regional economic analysis and growth strategy of under performing regions.
- With EDA grant, carry out regional assessments in 3 under performing regions across the country
  - Albuquerque, NM
  - Akron, OH
  - Wilmington DE
- Regional workshops, convening key local and regional stakeholders, and representatives from academe, labor, industry and government.
- K-12 education is a key element in regional development.

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Global Issues Initiative

➢ **Expanding the Council Model**

➢ **International Competitiveness Dialogues**

➢ **National Innovation Platform**

➢ **Competitiveness & Security**

➢ **Mexico as a Priority Partner**

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The US-Mexico Partnership for Prosperity (PforP)

• The PforP mandate, to harness the power of free markets to boost economic and social development in Mexico, is central to the Council's mission and activities in the U.S.

• The Council is pleased to be collaborating with the U.S. State, Treasury and Commerce Departments and other federal agencies including OPIC and TDA, as well as President Fox's office, and Economia on this important public-private initiative.

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Council-FUMEC Partnership

- The Council is pleased to be a partner with FUMEC to support innovation-led growth in the US and Mexico.
- We will work together to support:
  - Inaugural policy dialogue on Competitiveness at the PfP meeting in San Francisco in June.
  - Follow-up workshops in synergistic areas such as K-12 science and math education and university-industry collaboration.
  - Possible additional areas: regional economic development and health care as an enabler of productivity.

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- For more information on the Council on Competitiveness and data, please visit our web site at:

www.compete.org

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