



Washington State LASER
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Pacific Science Center
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DISCOVER

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Washington State

LASER

Leadership and Assistance
for Science Education Reform



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Science on Wheels





Day-to-day Stewardship of Science Education in Washington State



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Science & Math Education Resource Center
Linking Education, Business & Research





LASER - Based on the NSRC Theory of Action and Building Blocks of Reform

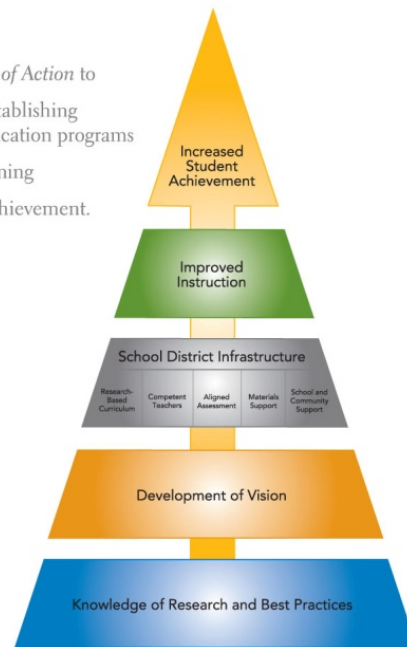
Science Education:

Preparing Today's Children for Tomorrow's World

Theory of Action

NSRC developed the *Theory of Action* to

- guide school districts in establishing research-based science education programs
- improve teaching and learning
- increase overall student achievement.



Source: 2003 National Science Resources Center

Building Blocks of Reform

Washington State LASER uses the NSRC *Theory of Action* to

- offer a portfolio of products and services
- help key stakeholders plan, implement and sustain effective science education programs.





Vision & Mission

Provide support to all 295 school districts in Washington State to implement:

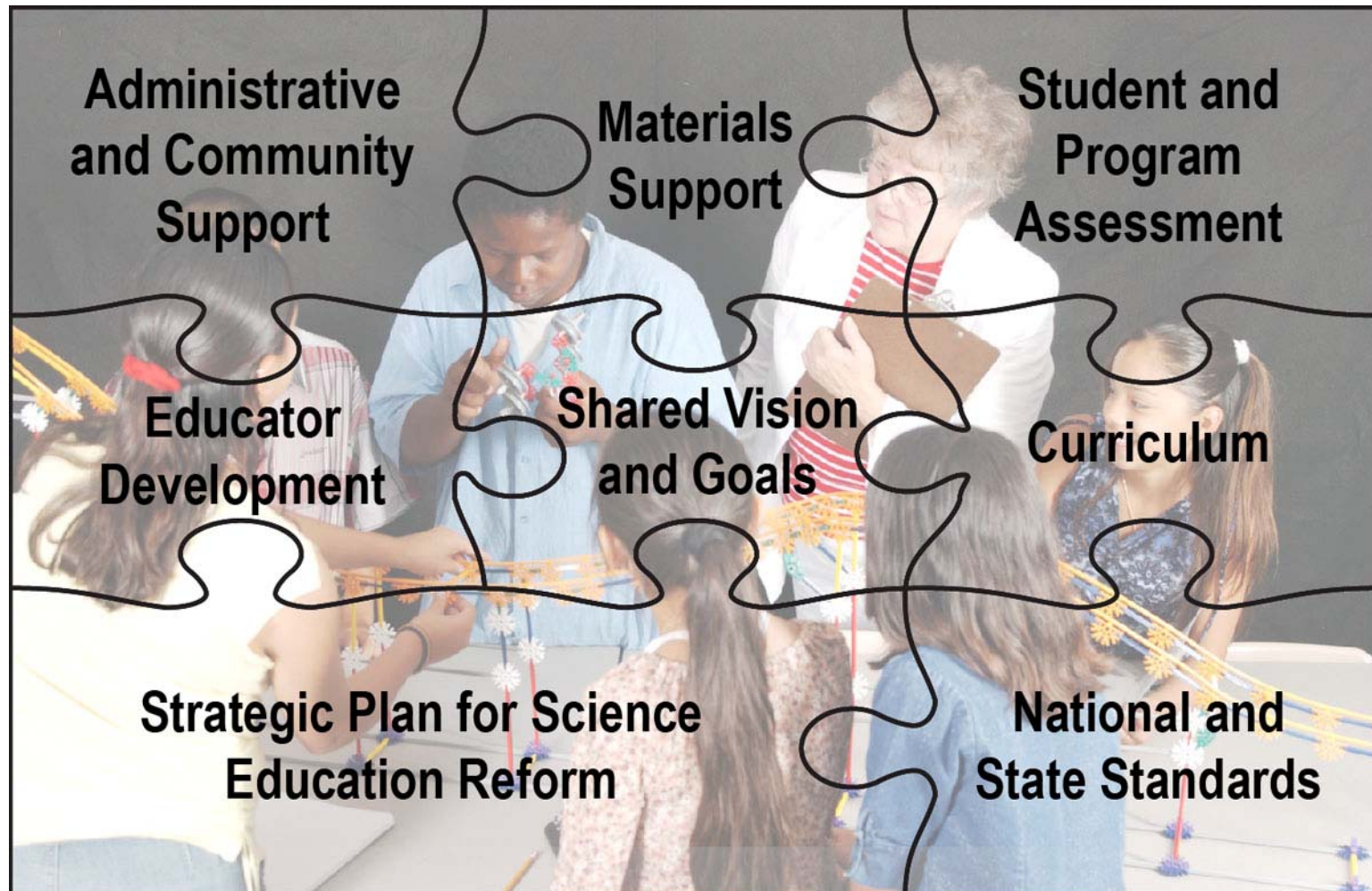
- Exemplary standards-based instructional material
- Effective student assessment
- Regular professional development for staff
- Appropriate materials support
- Broad-based community and administrative support
- Effective strategies to use science as a vehicle to support reading, writing, communication and mathematics learning

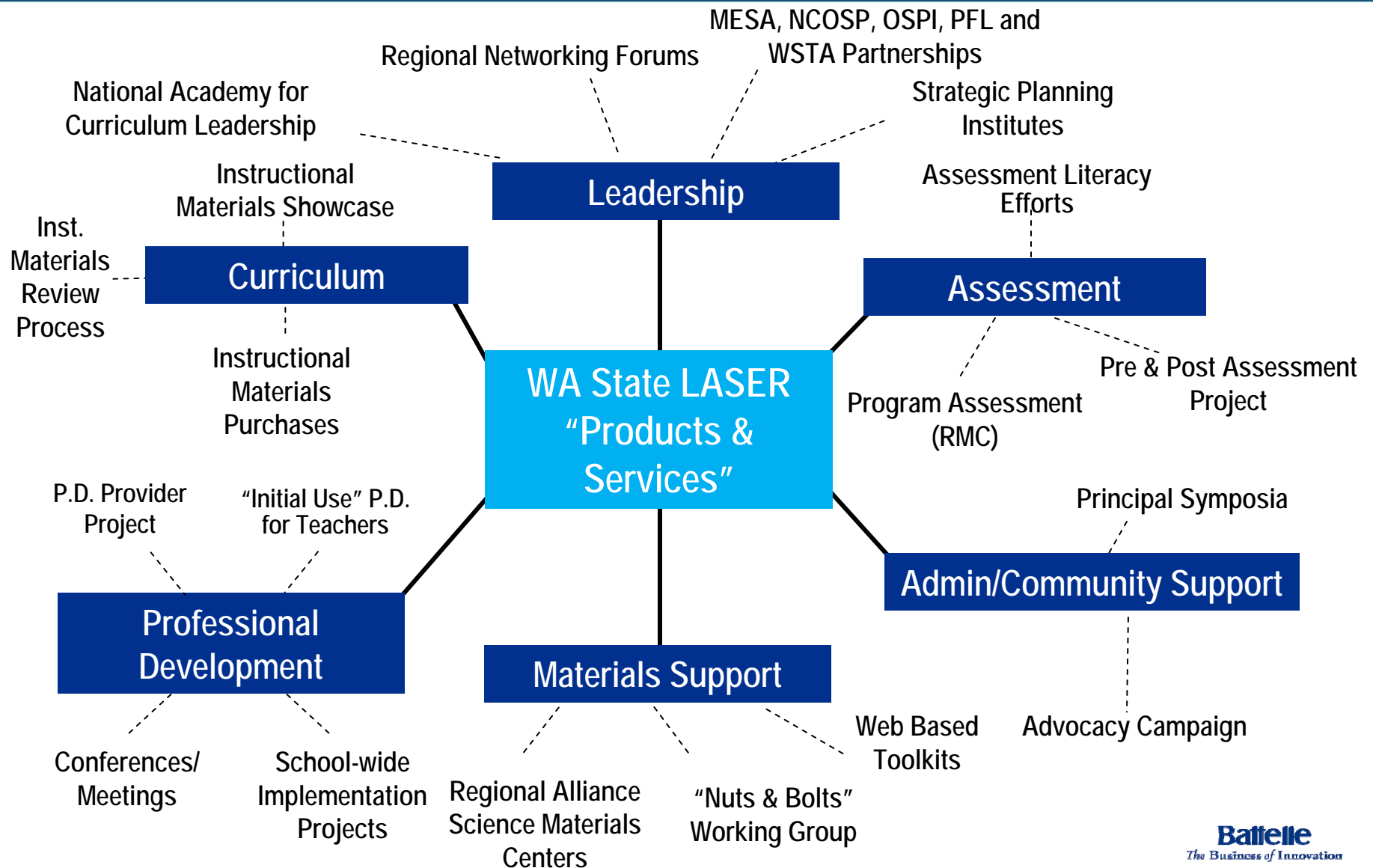


Washington State

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Background & Context for Washington



Factors to Keep in Mind

1. Decentralized state – local control
2. Not a curriculum adoption state
3. 295 school districts – many small
4. Nine Education Service Districts which serve school districts

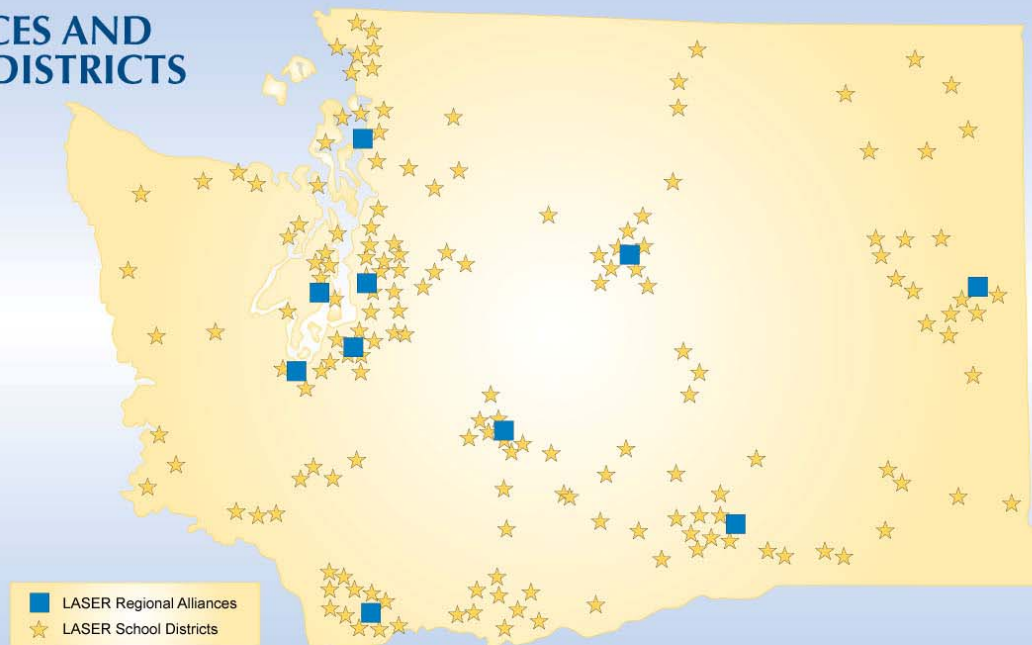


Many Successes Over 10 Years

- Developed leadership teachers and administrators across the state through our Strategic Planning Institutes, National Academy for Curriculum Leadership and projects to develop Foundational Professional Development Providers
- Number of LASER school districts grew from 30 to 203, serving about 90% of students in the state
- Number of Regional Alliances grew from 4 to 9, with leadership involved from each associated ESD
- Services expanded from elementary to include middle school and now expanding into high school



ALLIANCES AND SCHOOL DISTRICTS



Washington State Office of
 Superintendent of Public Instruction
 and its Education Service Districts



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National Science Resources Center
 THE NATIONAL ACADEMIES Smithsonian Institution



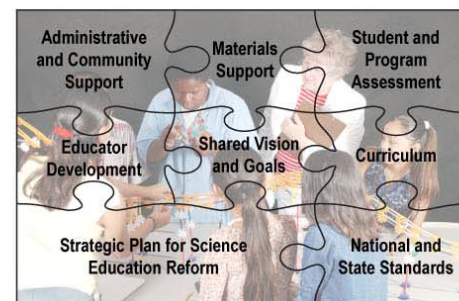
Pacific Northwest National Laboratory
 Operated by Battelle for the U.S. Department of Energy



**ROSETTA
 INPHARMATICS**
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Many Successes Over 10 Years

- Focused on leadership, curriculum, professional development of classroom teachers and technical assistance
- Emphasized current research and best practices
- Built strategic relationships with business, government, the public and the K-16 system
- Leveraged federal, state, local and corporate funding to improve instruction, provide teacher professional development, access to equipment/materials, and enhance leadership and community support



LASER

Demonstrates Positive Impacts

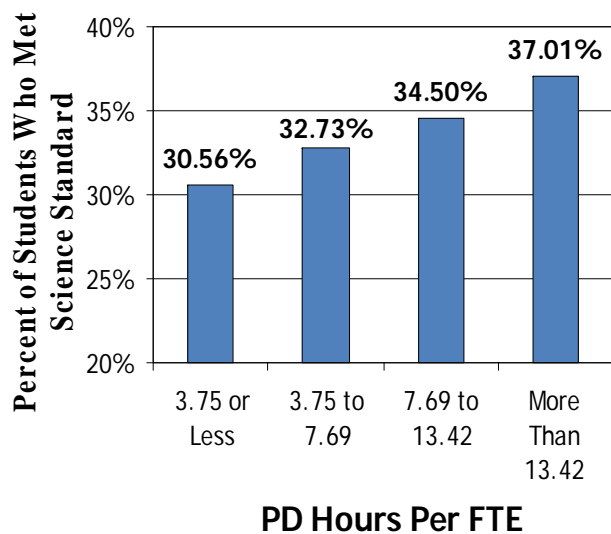


Chart 1

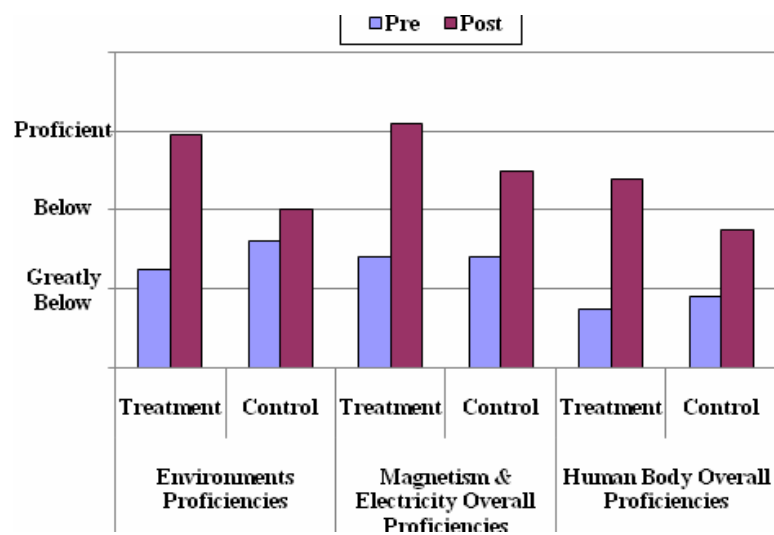
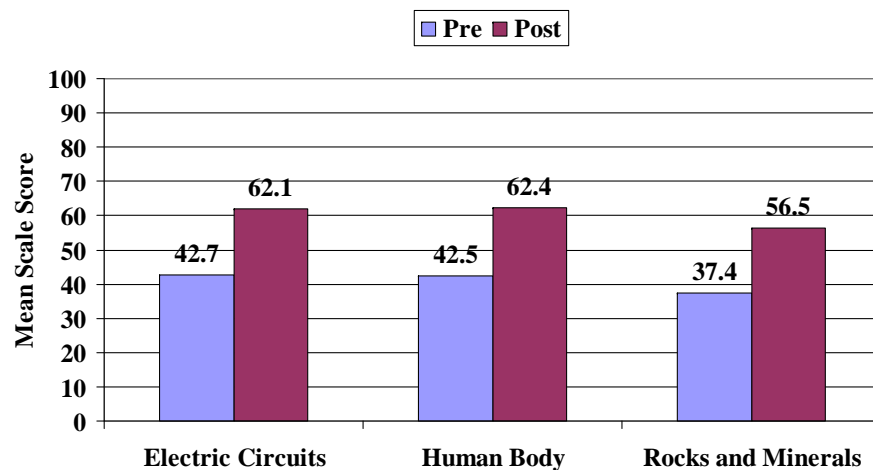


Chart 3



Many Successes Over 10 Years

- More than 22,000 teachers received Foundational Professional Development -- foundational experiences in the use of the standards-based instructional materials
- Almost 2,400 teachers received the 54 hours of Foundational Professional Development over a three year period that is the program's goal
- Emphasized a coordinated, articulated curriculum across all grades resulting in an implementation of two to four instructional materials at each grade level

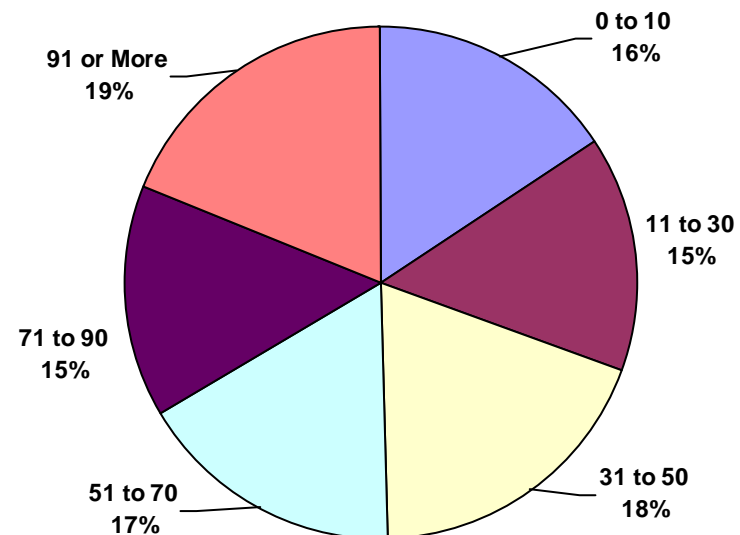


Still Many Challenges

Half of the elementary teachers spend 1 hour or less a week teaching science

**Minutes Teaching Science per Week
2005–2006 Project Year**

K-5 Teachers





Still Many Challenges

- Not enough students are reaching proficiency on the state's science assessments
- Although 22,000 teachers were involved in IUPD, the 2,400 teachers that received the full 54 hours of IUPD represent only about 11% of the potential number of teachers that need to be reached



Too Many Opportunities, Not Enough Time





Need for Targeted Supplemental Experiences



2nd grade students
visit the Mercer
Slough
Environmental
Education Center at
specific point in Soils
module



Kindergarten students visit
Pacific Science Center's
Butterfly Atrium at a
specific time in the Wood
module

