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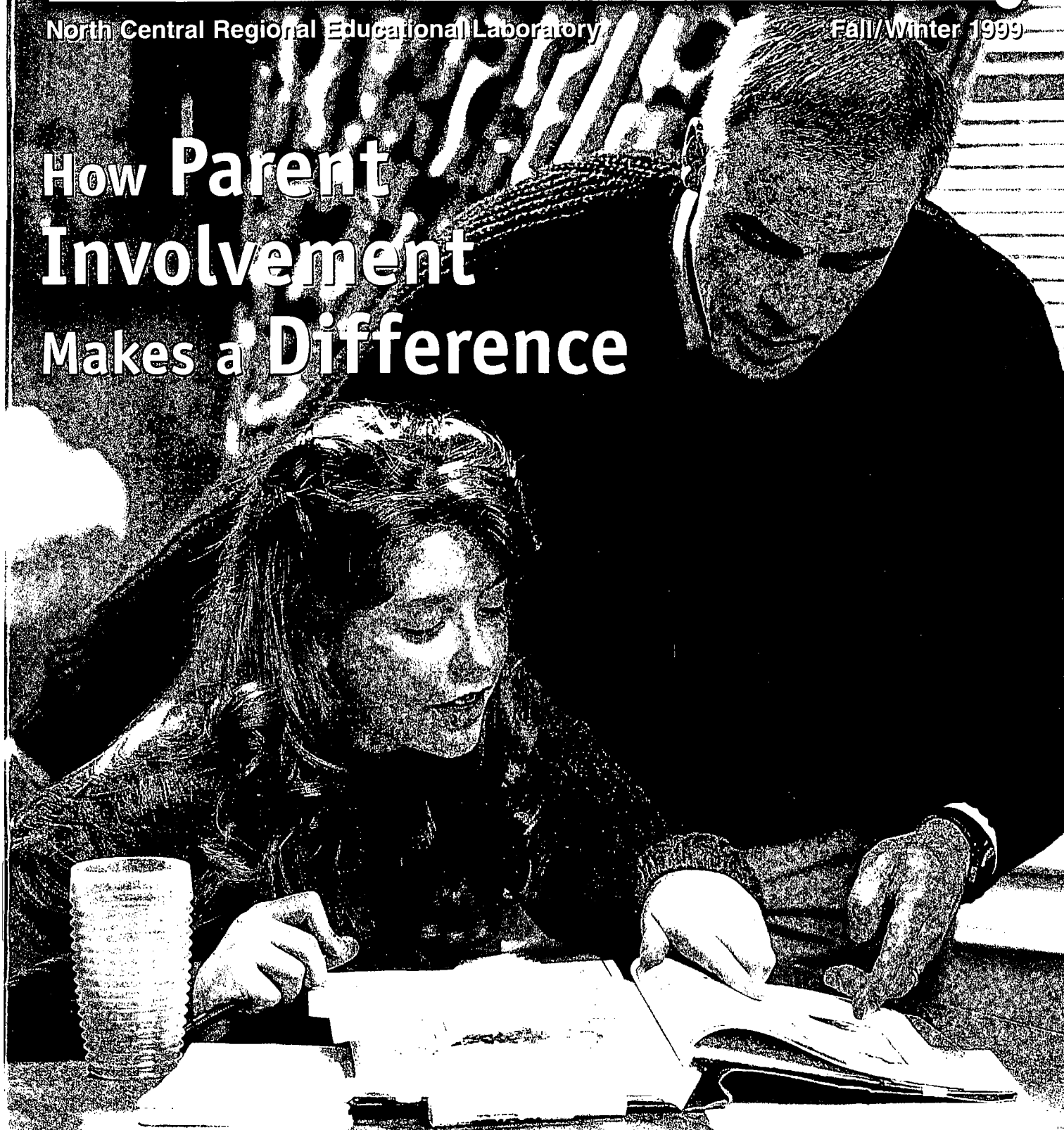
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NCREL's LEARNING POINT

North Central Regional Educational Laboratory

Fall/Winter 1999

How Parent Involvement Makes a Difference



NCREL
Applying Research and
Technology to Learning

Plus... • Partners in Education
• The Latest Educational News in Your Region

What Is ParentTech?

"The future ain't what it used to be."

— Yogi Berra

For the first time in history, being a parent means understanding how technology makes a difference in young peoples' lives. Yet all too often, parents don't feel they know how to guide their children through this digital age.

Kids today seem so at ease with technology ... but many families still wonder if their children are using technology in productive, educational ways.

"What technology skills should my child learn in middle school?"

"How can I help my child explore tomorrow's high-tech careers?"

"Where can I learn about the technologies that will shape my child's life in the next century?"

The answers to these and many other questions can be found with the help of **ParentTech**, a unique technology information initiative that's educating families across the Midwest.

ParentTech provides families and educators of children in grades 6-8 with the latest research, inspiring stories, practical tips, and places to go to learn more—all in a free, parent-friendly kit of resources focused on three important topics:

The way we learn...
Technology and Education

The way we work...
Technology and Careers

The way we live...
Technology and Society



The ParentTech Kit Includes:

- ✓ Three 16-page Parent Guides
- ✓ An interactive CD-ROM
- ✓ A Web site, available at www.parentech.org

ParentTech also reaches out to middle schools with an informative Teacher Guide, a principal's tip sheet, and a colorful poster. In addition, ParentTech connects with communities through a "mini-exhibit" scheduled to visit regional museums during the summer and fall of 1999.

Resource kits are free to families, schools, and libraries in Illinois, Indiana, Michigan, Ohio, and Wisconsin.

Parents and educators outside these states can access online resources at (www.parentech.org).

With ParentTech Resource Kits in hand, families and educators will be ready to "get a grip" on technology and explore the future with their children—both at home and at school.



"Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road."

— Stewart Brand



What You'll Find...

Technology and Society Guide

Technology trends and cutting-edge innovations

Parent-friendly definitions of common technology terms

The lifelong learning skills critical for the next 20 years



Technology and Careers Guide

How technology is changing the 21st-century workplace

Conversations with high-tech professionals

How families and schools can enhance middle schoolers' career development

Technology and Education Guide

Key elements of a high-quality middle school education

How technology can support middle school teaching and learning

Educational technology benchmarks

CD-ROM

"Virtual Q & A sessions" with experts in education, parenting, and technology

Fun activities to help parents guide their children through a digital age

Video visits to middle school classrooms where technology is bringing learning to life

Web Site (www.parentech.org)

Interactive forums where families and educators can share ideas, questions, and concerns

Links to dozens of interesting and educational sites

Informative interviews with families, educators, and others

... plus much more!

Building a Partnership

ParentTech is a unique partnership of the North Central Regional Educational Laboratory (NCREL) and the Ameritech Foundation. Together, NCREL and Ameritech are making an important investment in how families understand and use technology to enhance how their children will learn, work, and live.

NCREL is a nonprofit educational research and development organization supported in part by the U.S. Department of Education. Our mission is to strengthen and support schools and communities so that all students achieve standards of educational excellence. Simply put, we are here to help teachers teach better; students learn better; administrators provide better leadership; policymakers make better policy; and families, communities, and schools collaborate better on behalf of all students. www.ncrel.org

Ameritech, the Midwest's leading telecommunications company, provides a wide range of communications products and services to millions of customers in 50 states and 40 countries. We understand how important technology is, particularly in the lives of families, and we understand how vital it is to develop these skills in our children. That's why we're proud to join with NCREL to make ParentTech part of our strong tradition of supporting and giving back to the communities we serve. In 1998, Ameritech contributed more than \$27.2 million to help more than 3,800 nonprofit organizations achieve their goals. And nearly 43,000 of our employees and retirees volunteered 482,000 hours to support health and human services, civic and community projects, and educational and arts programs. www.ameritech.com

How to "Get a Grip" on ParentTech

Parents...Order your free ParentTech Kit today! (Note: Quantities are limited.)

Educators...Look for the free ParentTech Kit (including your Teacher Guide) coming to your school in the fall of 1999!

Librarians...Look for your ParentTech Kit in the fall of 1999 (made possible through a partnership with the American Library Association)!

Call Toll-Free: **1-877-298-7273**
(1-877-298-ParentTech)

Write us at:
ParentTech
P.O. Box 263
Franklin Park, IL 60131
Fax us at: (847) 678-7054

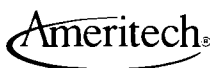
E-mail us at:
parentec@ncrel.org

Or visit us online at www.parentech.org

ParentTech resources can also be found at middle schools and public libraries in Illinois, Indiana, Michigan, Ohio, and Wisconsin beginning in summer/fall 1999.

*"In a time of drastic change,
it is the learners who inherit the future."*

— Eric Hoffer

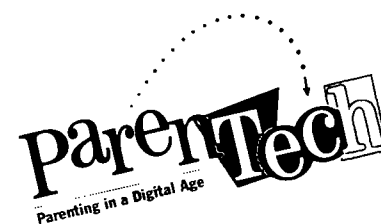
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NCREL
North Central Regional Educational Laboratory
Advancing Research and Technology to Learning

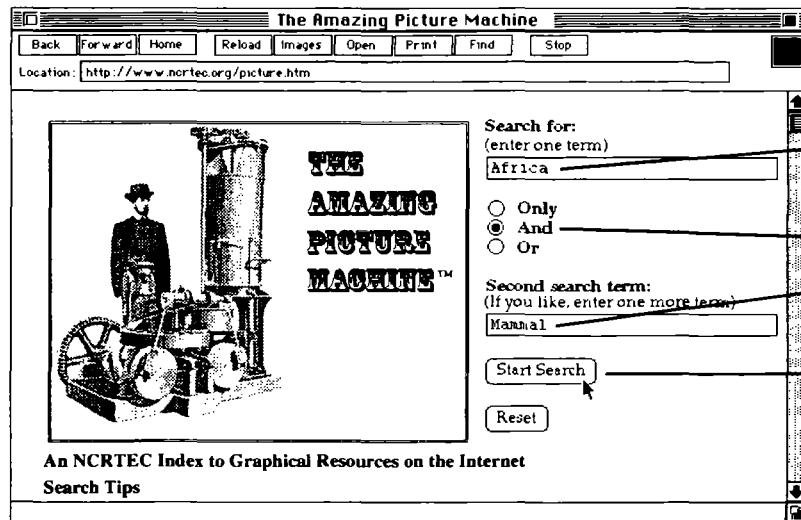
Help Parents...

Get a Grip on Technology




Parenting in a Digital Age

A Partnership of Ameritech and NCREL

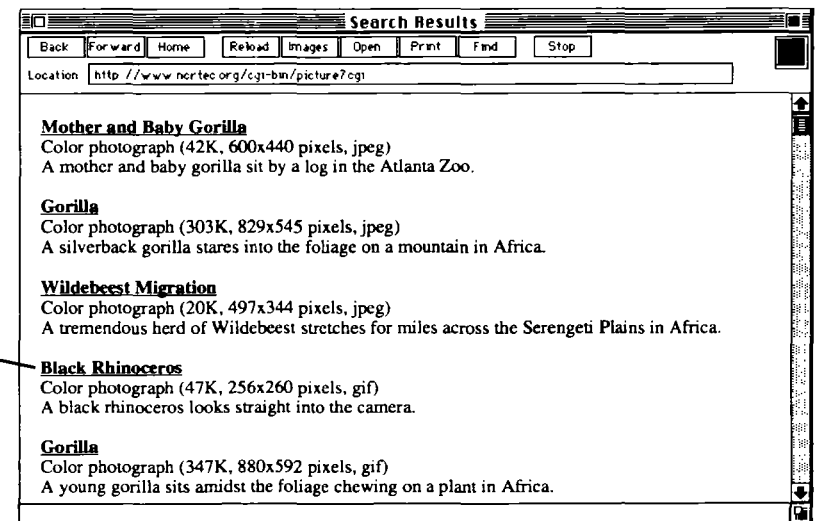


Type in a subject to search for.

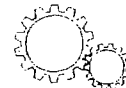
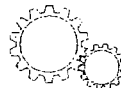
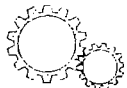
Narrow the search if you like.

Click to start the search.

Read the description and then click on the picture you want to see.



<http://www.ncrtec.org/picture.htm>



The Amazing Picture Machine™ Web site was created by NCRTEC (North Central Regional Technology in Education Consortium) to help educators easily find graphic resources on the World Wide Web.

Teachers and students can find pictures and maps from Web sites around the world by typing a subject into The Amazing Picture Machine™ Web site. The NCRTEC search engine then combs its extensive list of Internet graphics and displays a web page with descriptions of pictures and clickable links to those pictures.

The Web site includes sample lesson activities to give teachers ideas about how they can incorporate pictures in their own classrooms.

Pictures on the Internet are a great way for students to learn. There are recent pictures from the Hubble Space Telescope, great works of art, and pictures of people and places around the world.

North Central Regional Technology in Education Consortium helps schools to integrate technology into their classrooms through:

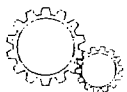
- Technical assistance
- Professional development
- Innovative tools

For more information contact:

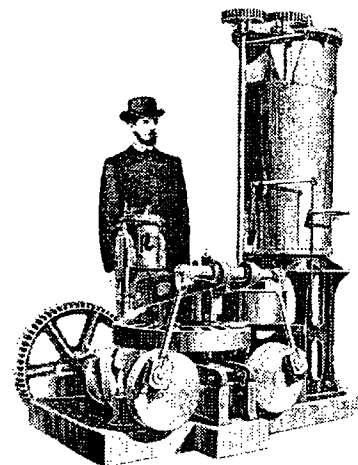
North Central Regional Technology
in Education Consortium
1900 Spring Road, Suite 300
Oak Brook, IL 60523-1480
(630) 571-4710
ncrtec@ncrel.org

NCREL

NCrTEC



THE AMAZING PICTURE MACHINE™ Web Site



A Web Site to Help
Educators Find Pictures,
Maps, and Other Graphic
Resources on the Internet

<http://www.ncrtec.org/picture.htm>

Who We Are

The Midwest Consortium for Mathematics and Science Education (known as the Math and Science Consortium or MSC) is one of ten consortia funded by the U.S. Department of Education under the National Eisenhower Program. MSC works to advance systemic change in mathematics and science education in a seven-state region: Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin.



Our Vision

MSC provides direct technical assistance to state education agencies, intermediate educational units, and school districts. Based on and

informed by best practice and research, these efforts are focused on providing meaningful, purposeful, and engaging math and science learning experiences for all students. Whenever possible, we advocate the appropriate use of technology to support and accelerate systemic reform.

MSC's Mission

Our mission is to advance systemic change in mathematics and science education by:

- Collaborating to build capacity and leverage resources.
- Identifying high-impact, high-priority projects, products, and services.
- Providing training and technical assistance (particularly in the use of technology) to improve teaching and learning in mathematics and science.
- Promoting the use of informal educational resources, including energy labs, museums, etc.
- Identifying and disseminating exemplary resources and best instructional practices.
- Evaluating the effectiveness of consortium activities in districts selected for intensive partnerships.



Products

Changing Perspectives—A multimedia package that facilitates capacity building in planning for systemic change in site-based learning communities

Connecting With the Learner—A guidebook and CD-ROM that promote equity in math and science instruction

Exemplary Math/Science Projects—Online projects that demonstrate engaged learning and effective use of technology

Family of Learners Resource Guide—A compilation of information, research, articles, and activities to promote student learning for educators, parents, and community members

Professional Development CD-ROM—A planning tool for professional developers in curriculum, instruction, and assessment

Science T.R.E.E.—A CD-ROM for elementary science curriculum planning and professional development

Technology Connections for School Improvement—A planners' handbook and companion teacher's guide that support technology planning and integration



Services

Eisenhower National Clearinghouse Demonstration Site at Fermilab—Facility for exploring exemplary K-12 math and science resources, including educational software, curriculum and assessment materials, multimedia tools, and more

Access Sites—Facilities throughout the region for examining exemplary K-12 math and science resources

Promising Curricular and Instructional Improvement Materials—A collection of K-12 National Science Foundation-funded programs as well as other exemplary math and science programs

Intensive Sites—Partners throughout the region who work with MSC to engage in action research, codevelop products and materials, and use and provide feedback on available resources

Technical Assistance—Consultation and ongoing assistance with:

- School improvement planning
- Product development, implementation, and evaluation
- Web site development
- Curriculum frameworks development and implementation
- Materials selection, implementation, and evaluation



Workshops and Presentations—Topics include the Third International Math and Science Study (TIMSS), curriculum mapping and alignment, data-driven decision-making, and more



Web Sites

Midwest Consortium
for Mathematics and
Science Education
www.ncrel.org/msc/msc.htm

North Central Regional Educational
Laboratory
www.ncrel.org

Eisenhower National Clearinghouse
www.enc.org/consortia.htm

North Central Regional Technology in
Education Consortium
www.ncrtcc.org

Strategic Teaching and Reading
Project
www.ncrel.org/strp/strp.htm

Pathways to School Improvement
Internet Server
www.ncrel.org/pathways.htm

Learning Through Technology
www.ncrel.org/tandl/homepg.htm

How to Reach Us

Midwest Consortium for Mathematics and Science Education

1900 Spring Road, Suite 300
Oak Brook, Illinois 60523-1480

Phone: 800-356-2735

630-571-4700

Fax: 630-571-4716

E-mail: info@ncrel.org

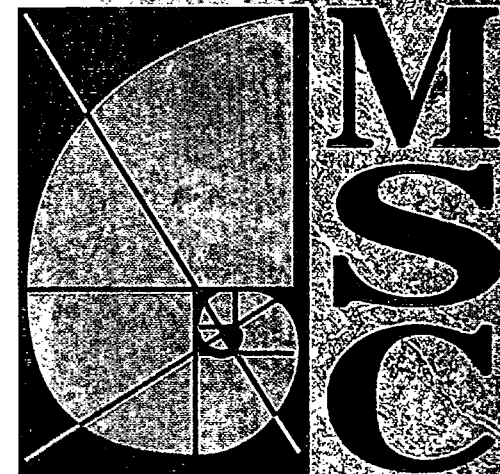
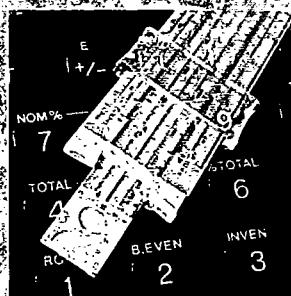
Web site: www.ncrel.org/msc/msc.htm

Gilbert Valdez, Ph.D., Director

NCREL

North Central Regional Educational Laboratory
"Applying Research and Technology to Learning"

The North Central Regional Educational Laboratory, one of ten regional educational laboratories, operates the Midwest Consortium for Mathematics and Science Education.



Midwest Consortium for Mathematics and Science Education

advancing
systemic change
in
mathematics
and
science
education



CLINTON LIBRARY PHOTOCOPY

NCREL's Mission

Our mission is to strengthen and support schools and communities so that all students achieve standards of educational excellence. We accomplish our mission through policy analysis, professional development, and technical assistance, and by leveraging the power of partnerships and networks.

NCREL also operates:

The North Central Regional Technology in Education Consortium

800-356-2735 • 630-571-4710 • Fax: 630-218-4989 • www.ncrtec.org

The Midwest Consortium for Mathematics and Science Education

800-356-2735 • 630-571-4700 • Fax: 630-571-4716 • www.ncrel.org/msc/msc.htm



Regional Education Laboratories

Serving America's Children Through Quality Research & New Innovations

NATIONAL

Summary of Recent Peer Reviews

EDUCATION

Background

KNOWLEDGE

The 10 Regional Education Laboratories (REL) conduct applied research and develop innovative programs and practices to improve student learning. The labs operate at the regional, state, and local levels under the direction of regional governing boards. The research and innovations developed by the labs benefit students and educators in a variety of ways. These efforts range from studies and evaluations of recent reforms to dissemination of best instructional practices to professional development of teachers. The labs are supported by federal dollars and through research and development contracts with state agencies, local school districts and private corporations and organizations.

INDUSTRY

ASSOCIATION

Peer Review Findings

The recent, first of its kind external review identified the following key strengths in a large majority of the labs:

- Impressive efforts to support comprehensive school reform
- Strong leadership and management
- Strong organizational structure
- Effective anticipation of the needs of educators
- Highly responsive to customer needs
- Strong quality assurance mechanisms
- High quality products and services
- Evidence of usage of products and services developed by the labs
- National leadership and reputation in each lab's specialty areas

In addition, evaluations identified that most regional labs have the following common strengths:

- Effective self-assessment and monitoring processes
- Comprehensive and continuous evaluations
- High quality research impacting schools and students

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Suite 700

Washington DC 20009

202.518.0847

Fax 202.785.3849

www.nekia.org

- Significant contributions to linguistically and culturally diverse students
- Accessibility to products and services through a variety of media
- Quality web site content
- Clear evidence of positive impact at the school and district level
- Extensive strategic alliances and partnerships
- Leverage of funds for additional services for labs or client agencies

Evaluators' Comments

Despite the number of strengths and benefits noted, the success of the Regional Education Laboratories is best captured in evaluators' comments:

"The Laboratory is making a great contribution regionally and nationally to the cause of school reform, especially with regard to its specialty area. The REL is service-oriented, committed to responding to customer needs."

"Its programs are consistent with the broad education focus of the states in its region and of the nation as a whole. At the programs and policy levels, its cadre of able and experienced educators has made excellent connections across the region and, in some cases, across the nation. They have brought training and materials to hundreds of principals and thousands of teachers who otherwise would not have known about key ways to organize, teach and assess, or about strategies to restructure faltering schools and turn around students."

"The Lab has a large presence in the region, and progress is being made toward a national reputation. The Lab provides a strong mentoring environment for minority researchers and values diversity in staffing. The overall culture of the organization is a strength, especially in its responsiveness, quality of programs and collegiality."

Scaling Up

One particular issue of concern identified by Peer Reviewers is a positive one and demonstrates the demand for REL products and services. It is the need for many of the labs to "scale up," that is to take their good works and disseminate them to wider audiences.

Recent REL Products & Services

Each year the 10 Regional Education Laboratories are engaged in hundreds of research and development projects. A sampling of recent research and training projects includes the following:

- **Solving the Urban School Crisis.** The RELs are working hard to address one of the nation's most significant educational concerns – the urban education crisis. All 10 labs are working with urban districts to identify ways to improve the achievement of children in urban schools. For example, the Laboratory for Student Success is working in more than 600 urban schools. And in San Francisco, WestEd's Reading Apprenticeship Approach has helped 9th graders gain up to two years on standardized achievement tests.
- **Creating Partnerships for Education Change.** In Albuquerque, N.M., the Southwest Laboratory has helped 14 public schools, 40 social-service providers, and numerous community supporters join to create a home-school-community partnership. In New York City, the Lab at Brown has worked with the city's public schools to gather information from 7,000 parents, teachers, and administrators on how site-based management can be improved in 1,100 schools.
- **Putting Research Into Practice.** WestEd synthesized more than a decade of research on early childhood development into an information program for childcare providers. Seven states adopted the program, which includes a video series, curriculum guides and training manuals. The Mid-Continent Research for Education and Learning created *Content Knowledge*, a database of standards and benchmarks that helps states, districts, and teachers make sense of a myriad of standards reports. The lab distributed nearly 20,000 copies of *Content Knowledge*. It also placed the report online where it is linked or referenced to 1,259 sites including *The New York Times* and *Achieve.org* which link it with daily lesson plans and a state education standards database.

For Additional Information

Contact C. Todd Jones, President of the National Education Knowledge Industry Association (NEKIA) at (202) 518-0847.

21st Century Evaluation Portfolio Data-Driven School Improvement Website

Partners

Illinois: North Central Regional Educational Laboratory (NCREL)
Illinois State Board of Education (ISBE)
Illinois Business Roundtable (IBR)

Wisconsin: NCREL
Wisconsin Department of Public Instruction (WI DPI)

Overview

This portfolio of decision-making tools offers a comprehensive and coordinated approach to assessing a school or district's current educational status as well as helping users set goals, priorities, and standards for action to support school improvement and educational change. NCREL is currently building these sites for the states of Illinois and Wisconsin, linking their data to these various tools. The website will give schools access to their state assessment results, their demographic data, as well as comparative data from similar schools. The website will also house information regarding each state's learning standards, prototypical school improvement plans, and summaries of empirically-supported educational best practices. Each state has made a commitment to provide professional development to users (e.g., administrators, teachers) throughout their state.

Importantly, the website will be question-driven. For example, users interested in understanding their school's current status would select their school, would select the question, "Where are we now?", and would be given a display of these data. Other guiding questions include, "Where were we before?" (longitudinal data), and "How do we compare to others?" (similar-schools comparisons). This feature will make the site accessible and user-friendly to those without a background in evaluation and statistics.

Goals

- Allow schools and districts to make comparisons with their own past performance, with other schools who share similar characteristics, and with the best schools in the state.
- Facilitate sharing between successful and less-successful schools regarding curriculum, instructional practices, assessment, etc.
- Encourage users to inform educational decision-making with relevant data.

History / Partial Plan of Project(s)

September, 1999	Partnership formed between NCREL, ISBE, and IBR to build website with Illinois data.
	IBR meeting with team of Illinois educators to discuss expanding standards-based practices throughout the state of Illinois.
October, 1999	IBR meeting with team of Illinois educators to plan for development of the website making Illinois Learning Standards readily available.

	Illinois schools (urban, suburban, and rural) identified to help develop and pilot website.
November, 1999	First meeting with pilot schools at NCREL. Website introduced to pilot schools, feedback obtained. Two workgroups formed (technical, website development).
December, 1999	Second meeting with pilot schools in Lexington, IL. Current version of website presented, feedback obtained. Plan for field-testing the tool developed.
January, 2000	Updated version of website presented to Illinois Business Leaders' Education Summit. Partnership formed between NCREL and WI DPI to build website with Wisconsin data.
February, 2000	ISBE / NCREL / IBR / pilot schools meeting to detail field-testing plan and evaluation of website. Field-testing teams (comprised of representatives from ISBE / NCREL / IBR) visit IL schools to facilitate first field-test. NCREL / WI DPI meeting to identify work plan for WI web-based school improvement tool.
March, 2000	IL schools field-test web tool.
April, 2000	Field-testing team carries out focus meeting to evaluate the success of the Illinois School Improvement Website Project in helping schools review their school improvement plans.
May – July 2000	Focus group meeting results used to produce a Beta version of the Illinois School Improvement website.

Further Plans TBD



Key Issues in Education

*Presented by the North Central
Regional Educational Laboratory*

NCREL's Key Issues in Education initiative focuses on creating an awareness of NCREL's and other organizations' research-based products and services that address today's top educational issues in the Midwest. The initiative also promotes the use of these resources in schools to improve instructional strategies and increase student achievement. Specifically, the initiative:

- Focuses on the depth and quality of use of research-based resources, not simply the breadth of material dissemination.
- Promotes and builds the capacity of strong partnerships throughout the region.
- Provides opportunities for educators to identify key educational issues and the products and solutions to address them.

“Key Issues” Institutes

To foster awareness, expand partnerships, and develop strong dissemination initiatives throughout the Midwest, NCREL will host a series of statewide Key Issues in Education Institutes, and conclude the effort with one regional institute. The state meetings will provide an opportunity not only to identify the top issues facing educators in each state, but also to create awareness and build partnerships across many constituent groups around resources that can strengthen the response to those issues. Examples of such resources are listed on the back of this flyer. The regional institute, to be held in fall 2000, will provide a forum to share the key issues that have been identified as well as the products, services, and dissemination/implementation strategies that have been effective in addressing them.

About NCREL

The North Central Regional Educational Laboratory (NCREL) is a not-for-profit organization dedicated to helping schools and students reach their full potential. One of ten regional educational laboratories, NCREL provides research-based resources and assistance to educators, policymakers, and communities in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin. Through collaborative field development, partnerships, and applied research efforts with schools and agencies, NCREL builds the research-based tools and services that lead to improved teaching and learning.

NCREL
North Central Regional Educational Laboratory

1900 Spring Road, Suite 300
Oak Brook, Illinois 60523-1480
(800) 356-2735 or (630) 571-4716
www.ncrel.org

Applying Research and Technology to Learning

Just a few of the resources available from NCREL...

Educational Technology

- *Technology Connections for School Improvement: Planners' Handbook and Teacher's Guide*
- *Computer-Based Technology and Learning: Evolving Uses and Expectations*
- North Central Regional Technology in Education Consortium Web site (www.ncrtec.org)
- Critical Issues in Technology (www.ncrel.org/sdrs/areas/te0cont.htm)

Reading/Literacy

- Literacy Research and Best Practices Web site (www.ncrel.org/litweb/)
- Critical Issue: Addressing the Literacy Needs of Emergent and Early Readers (www.ncrel.org/sdrs/areas/issues/content/cntareas/reading/li100.htm)
- Timely Topic: Balanced Reading Instruction (www.ncrel.org/sdrs/timely/britoc.htm)

Mathematics and Science

- Midwest Consortium for Mathematics and Science Education Web site (www.ncrel.org/msc/msc.htm)
- Critical Issues in Mathematics (www.ncrel.org/sdrs/areas/ma0cont.htm)
- Critical Issues in Science (www.ncrel.org/sdrs/areas/sc0cont.htm)
- Gateway Web site (www.ncrel.org/msc/gateway/index.htm)

Professional Development

- *Professional Development: Learning From the Best*
- Professional Development: Staff Learning for Student Results Web site (www.ncrel.org/pd/)
- Critical Issues in Professional Development (www.ncrel.org/sdrs/areas/pd0cont.htm)

Education Policy and Evaluation

- Educational Policy Web Page (www.ncrel.org/policy/)
- *State Policy on Professional Development: Rethinking the Linkages to Student Outcomes*
- School Development Outreach Project audio series

For more *free* resources, visit these NCREL-hosted Web sites...

The Amazing Picture Machine
www.ncrtec.org/picture.htm

Parentech
www.parentech.org

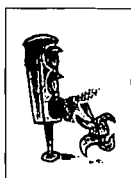
Comprehensive School Reform Initiative
www.ncrel.org/csri/

NCREL Product Catalog
www.ncrel.org/catalog/

Pathways to School Improvement
www.ncrel.org/pathways.htm

Critical Issue:

Addressing the Literacy Needs of Emergent and Early Readers



ISSUE: Literacy development begins in the very early stages of childhood, even though the activities of young children may not seem related to reading and writing. Early behaviors such as “reading” from pictures and “writing” with scribbles are examples of emergent literacy and are an important part of children’s literacy development. With the support of parents, caregivers, early childhood educators, and teachers, as well as exposure to a literacy-rich environment, children successfully progress from emergent to conventional reading. The theoretical and research-based knowledge of child development in general and of literacy development in particular provides an understanding of the literacy acquisition of young children and suggests strategies that can help children become successful, confident readers and writers.



OVERVIEW: According to current research, children’s literacy development begins long before children start formal instruction in elementary school (Burns, Griffin, & Snow, 1999; Hall & Moats, 1999; Allington & Cunningham, 1996; Teale & Sulzby, 1986; Holdaway, 1979; Clay, 1991). This literacy development is nourished by social interactions with caring adults and exposure to literacy materials, such as children’s storybooks (Sulzby, 1991). It proceeds along a continuum, and children acquire literacy skills in a variety of ways and at different ages (Ramsburg, 1998; Emergent Literacy Project, n.d.; McGee & Richgels, 1996; Strickland & Morrow, 1988).

Children’s parents, caregivers, and early childhood educators play an important role in ensuring that children successfully progress in their literacy development. It is imperative that caregivers and educators in all settings are knowledgeable about emergent literacy and make a concerted effort to ensure that children experience literacy-rich environments to support their development into conventional literacy.

In literacy-rich home environments, parents and caregivers provide children with occasions for daily reading, extended discourse (extensive talking or writing), language play, experimentation with literacy materials, book talk (discussion of characters, action, and plot), and dramatic play (Burns, Griffin, & Snow, 1999; International Reading Association & National Association for the Education of Young Children, 1998). In literacy-rich classrooms, teachers incorporate the characteristics of literacy-rich home environments, but they also use grouping for learning, developmentally appropriate practices, and literacy routines.

More online...



GOALS:

- Teachers and caregivers understand and support children's emergent literacy and, in later years, children's transition to conventional reading and writing.

More online...



ACTION OPTIONS:

- Use developmentally appropriate literacy practice that acknowledges children's development, interests, and literacy knowledge.
- Create a literacy-rich classroom environment. Provide appropriate literacy activities for children, such as literacy activities for day care and preschool settings, literacy activities for kindergarten, and literacy activities for first grade.
- Use a wide range of literacy materials in class. Allow children to experience a variety of children's books, magazines, and newspapers.

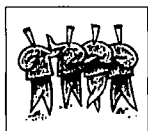
More online...



IMPLEMENTATION PITFALLS: Teachers may be given reading tools and materials without long-term professional development to ensure deep understanding of children's literacy development. Professional development is important in helping teachers understand that appropriate reading and writing skills should be taught to children

at the appropriate times. These skills must be presented in different ways to reach all children in the classroom.

More online...



DIFFERENT POINTS OF VIEW: There are varying opinions on the strategies for teaching young children to read and write. Some educators believe that instruction in conventional literacy should be based on early, explicit, and intensive instruction in sound-letter

relationships to develop children's comprehension and decoding skills. Others emphasize immersion in language and literature.

More online...



ILLUSTRATIVE CASES:

- Jo Wingo, a kindergarten teacher at Centralized Kindergarten North School, in Indianapolis, Indiana, demonstrates literacy best practice in a kindergarten classroom (text and videostreaming feature).
- The literacy program at Cherry Valley Elementary School, in Polson, Montana, emphasizes teaching and reaching each child as an individual.

More online...

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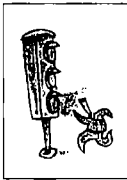
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Sneak Preview

Critical Issue:

Using Technology to Improve Student Achievement



ISSUE: Since educators first began to use computers in the classroom, researchers have tried to evaluate whether the use of educational technology has a significant and reliable impact on student achievement. Judging the impact of any particular technology requires an understanding of how it is used in the classroom and what learning goals are held by the educators involved, a knowledge about the type of assessments that are used to evaluate improvements in student achievement, and an awareness of the complex nature of change in the school environment.



OVERVIEW: Rapid advances in multimedia and telecommunications technologies, combined with a growing consensus among educators regarding the need for developing educational standards for student achievement, have led to a new set of expectations for how educational technology can support meaningful, engaged learning for students. Instead of focusing merely on isolated, skills-based uses of technology, educational technologists are promoting the use of various technologies that are integrated across the curriculum (Means & Olson, 1995; Panel on Educational Technology, 1997; Eisenberg & Johnson, 1996).

Various technologies deliver different kinds of content and serve different purposes in the classroom. Technologies range from simple tool-based applications (such as word processors) to online repositories of scientific data and primary historical documents, to closed-circuit television channels and two-way distance learning classrooms. Each one is likely to play a different role in students' learning. To measure the effect of specific technologies on student achievement, assessment methods and instruments should be appropriate to the learning outcomes promoted by those technologies (Glennan & Melmed, 1996; Conte, 1997).

Another factor influencing the impact of technology on student achievement is that changes in classroom technologies correlate to changes in other educational factors, such as teachers' roles and teachers' perceptions of students' capabilities.

The relationship between technology and student achievement is more complicated now than when computers first appeared in the classroom. Nevertheless, specific studies on technology and student learning demonstrate that it is possible to do research that takes into account this range of factors and to demonstrate that use of technology, integrated into the classroom context, can have a positive impact on student achievement.

More online...

[www.ncrel.org/sdrs/areas/issues/
methods/technology/te800.htm](http://www.ncrel.org/sdrs/areas/issues/methods/technology/te800.htm)



GOALS:

- Technology is integrated into all aspects of teaching and learning, and it addresses the learning of critical content. The school or district technology plan reflects this goal.

More online...



ACTION OPTIONS:

- Identify specific curricula, practices, skills, attitudes, and policies that can be enhanced through the use of technology to foster significant improvement in the character and quality of student learning.
- Find ways to make appropriate structural changes in the school day and class scheduling to support engaged learning with technology.
- Provide incentives, structures, and time for teachers to participate in highly effective staff development to help them integrate technology into their teaching and learning.

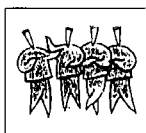
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IMPLEMENTATION PITFALLS: Educators may find impediments to evaluating the impact of technology, such as lack of measures to assess higher-order thinking skills, difficulty in separating technology from the entire instructional process, and the outdating of technologies used by the school. To address these impediments, educators

may need to develop new strategies for student assessment, ensure that all aspects of the instructional process are conducive to student learning, and conduct ongoing evaluation studies to determine the impact of technology (Kosakowski, 1998).

More online...



DIFFERENT POINTS OF VIEW: Some educators emphasize the use of technology only as a job skill. They focus on teaching students how to use various types of software or programs that are likely to be encountered in business or technical work environments. This

approach focuses on acquisition of practical skills rather than the skills of critical thinking, interpretation, and synthesis.

More online...



ILLUSTRATIVE CASES:

[Hanau Model Schools Partnership](#)

[Union City Online, Union City \(New Jersey\) School District](#)

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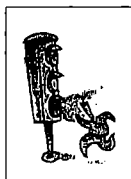
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Critical Issue:

Meeting the Diverse Needs of Young Children



ISSUE: The increase in racial, ethnic, and cultural diversity in American schools is reflected in many early childhood classrooms. These classrooms also are receiving increased numbers of children with disabilities or developmental delays. With a knowledge of effective practices, educators can create classrooms that are responsive to the diverse needs of all children.



OVERVIEW: If schools are to meet the challenge of educating increased numbers of children with diverse needs, teachers must embrace instruction and curricula that engage and encourage all students. Research about including children from multicultural backgrounds, children from homes in which English is not the primary language, and children with disabilities indicates the importance of several educational strategies: heterogeneous student grouping; developmentally appropriate practice; an inclusive curriculum; high expectations for all students; appropriate physical environment and materials; collaboration and instructional teaming; support from administrators, families, and the community; and ongoing professional development.

One strategy for teaching children in a diverse classroom is an inclusive curriculum that emphasizes the strengths but accommodates the needs of all children. Because young children notice and ask questions about disabilities, the curriculum for a diverse classroom should acknowledge differences yet point out shared abilities and similarities. Such strategies help counter misconceptions and stereotyping about what children with disabilities can and cannot do (Derman-Sparks & Anti-Bias Curriculum Task Force, 1989). The curriculum also must balance learning the common core of knowledge from the dominant culture with knowledge of minority cultures (Derman-Sparks, 1992).

Research shows positive results—both socially and academically—for at-risk, ethnic-minority, and language-minority students in heterogeneous, cooperative learning groups. The teacher responsible for such a heterogeneous class must be able to identify the individual needs of each child, including any needs for accommodation and support.

Teachers can use instructional teaming to meet the diverse needs of children. The inclusion of children with disabilities into the general classroom calls for collaboration between general and special education teachers. Inclusion of children with limited English proficiency calls for collaboration between classroom teachers and bilingual resource specialists.

More online...



GOALS:

- Educators understand, respect, and validate the diverse needs of children entering the early childhood classroom; they hold high expectations for achievement for all students.

More online...



ACTION OPTIONS:

- Participate in instructional teaming and collaboration with special education teachers or bilingual resource specialists to ensure that appropriate educational strategies are used.
- Become aware of various cultural influences and social conventions that affect how children communicate and interact with their parents and families. Adjust instruction accordingly.

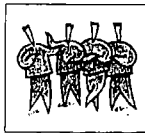
More online...



IMPLEMENTATION PITFALLS: Labeling a student with disabilities or relying on a standard description of a particular disability may prevent a teacher from accurately assessing the student's individual abilities. Such labeling also may hurt a child's self-esteem and cause teachers to lower their expectations for the child's achievement. Instead of labeling the child, the label can be placed on the

program or service.

More online...



DIFFERENT POINTS OF VIEW: Not everyone agrees that diversity in the classroom is beneficial. Some teachers may feel overwhelmed by the prospect of meeting so many different types of needs. They also may have concerns about being able to meet the normal developmental needs of young children in a classroom where so many students have special needs.

More online...



ILLUSTRATIVE CASES:

The Inclusion Initiative, New York City, combines general education students and children with special needs in the same classroom.

Ysleta Independent School District, El Paso, Texas, promotes cooperative learning among children transitioning from Spanish to English reading during second and third grade.

More online...

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NCREL

North Central Regional Educational Laboratory

"Applying Research and Technology to Learning"

Fall 1999

TECHNOLOGY AND TEACHER PREPARATION

IN THIS ISSUE

**Faculty Profile:
Engaging Science
Educators With
Technology**

**Technology in the
Classroom:
A Sample Lesson**

**Check Out These
Web Sites**

What Is NCREL?

North Central Regional Educational Laboratory (NCREL) is one of ten federally funded regional educational laboratories serving the needs of students and educators across the United States. NCREL specializes in technology integration and serves the upper-midwestern region of the country.

For over 10 years, NCREL has developed and delivered products and services for K-12 educators. For example, our *Pathways to School Improvement* Web site (www.ncrel.org/pathways.htm) receives over 1,200 visitors daily and our Learning With Technology course helps practicing teachers integrate technology into the curriculum in meaningful ways. We invite you to visit our Web site (www.ncrel.org) for more information on these and many other resources.

NCREL's Higher Education Initiative

Over the years, many preservice teacher educators have expressed interest in our efforts to help classroom teachers develop strategies for integrating technology into the curriculum. Spurred by this interest, NCREL has created a project called **Preparing Teachers for Tomorrow (PTT)**. The project's goal is to support education faculty as they explore new ways of preparing teachers for the 21st century.

Preparing Teachers for Tomorrow includes a Web site that highlights issues and best practices in the preparation of new teachers as well as this quarterly newsletter on technology applications in teacher preparation. Each issue of the newsletter will include the following features:

- **Faculty Profile**—a story about a preservice faculty member who has developed lessons that address technology integration
- **Technology in the Classroom: Sample Lessons**—interviews, sample lessons, and resources from K-12 classroom teachers who have enhanced a lesson or unit with technology
- **Web Sites**—reviews and abstracts of Web sites to help teacher educators locate resources, models, curricular ideas and materials, and sites for their students

COMING SOON
to the PTT Web site!
www.ncrel.org/he/ptt/

Now Available at NCREL...

Policy Issues (No. 2)—Benchmarking Against the TIMSS: Lessons From First in the World

This edition of *Policy Issues* explores the role of TIMSS in international benchmarking, and provides state and local education leaders with examples of analyses of TIMSS data that illustrate educational practices in high-achieving schools.

Presented by: Evaluation and Policy Information Center

Disseminated to: District and state superintendents, educational service agencies, state legislators, and NCREL's policy database

For copies or more information, contact: Sabrina Laine (ext. 4999)

Issues of Supply and Demand: Recruiting and Retaining Quality Teachers (School Development Outreach Package)

The quality of teaching is the most important factor in how well children learn. Unfortunately, many states and districts will face teacher shortages. This audio/print package looks at the issue from a variety of perspectives and offers suggestions for administrators and policymakers.

Presented by: Evaluation and Policy Information Center

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NCREL's Learning Point (Vol. 1, No. 2)

This edition of NCREL's magazine focuses on reading instruction. It includes an interview with reading expert Mary Foertsch, a special pull-out section on benchmarks in children's reading development, and an interview with a fourth-grade teacher who is using technology and the Iditarod sled dog race to teach across the curriculum.

Presented by: Office of Information and Outreach

Disseminated to: Principals, school librarians, district and state superintendents, educational service agencies, and NCREL board members and advisory groups

For copies or more information, contact: Stephanie Blaser (ext. 1044)

Technology Connections for School Improvement: Planners' Handbook and Teacher's Guide

These companion documents provide a comprehensive guide to developing a school or district technology plan. Included are Internet-based resources, suggested action steps, and planning tools.

Presented by: Center for Teaching, Learning, and Curriculum

Disseminated to: OERI, NCREL board members and advisory groups, and participants of the Secretary's Conference on Educational Technology

For copies or more information, contact: Mary McNabb (ext. 3785) or Joe Leamon (ext. 1049)

Pathways Critical Issue: Using Technology to Improve Student Achievement

To improve student achievement, technology use must be guided by research, implemented in a way that promotes engaged learning, and evaluated based on the educator's intended learning goals. *Available at:* www.ncrel.org/sdrs/areas/issues/methods/technlgy/te800.htm

Presented by: Pathways to School Improvement and NCRTEC

For more information, contact: Jan Bakker (ext. 1066) or Lynne Huske (ext. 1093)

Taking Responsibility for Ending Social Promotion: A Guide for Educators and State and Local Leaders

This policy guide by the U.S. Department of Education looks at the issues surrounding social promotion, and offers better strategies for eliminating social promotion and retention by focusing on interventions to help all students meet high expectations. *Available at:* www.ed.gov/pubs/socialpromotion/

Presented by: U.S. Department of Education

Disseminated to: No dissemination through NCREL at this point

For more information, contact: Margaret O'Keefe (ext. 1062)

Teacher Change: Improving K-12 Mathematics (CD-ROM)

This collection of resources helps educators and professional development providers facilitate discussion and reflection on improving K-12 mathematics. The materials include professional development activities, TIMSS publications, articles about teacher change, and teacher narratives. *Available at:* <http://change.enc.org>

Presented by: Eisenhower National Clearinghouse

Disseminated to: MSC Advisory Committee, selected MSC contacts

For copies or more information, contact: Barb Youngren (ext. 1056) or Mary Ann Larson (ext. 1028)

Other ENC products available from MSC:

Ideas That Work: Science Professional Development

Ideas That Work: Math Professional Development

Focus: Ohio SchoolNet Software Review

Focus: Multicultural Approaches

Focus: Informal Education

Focus: Innovative Curriculum Materials

Still Available...

Connecting With the Learner: An Equity Toolkit (contact Barb Youngren, ext. 1056)

Changing Perspectives (contact Barb Youngren, ext. 1056)

Changing by Design: A Comprehensive Approach to School Reform (cont. Sabrina Laine, ext. 4999)

Charters in Our Midst: The Impact of Charter Schools on School Districts (Sabrina Laine, ext. 4999)



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July 29, 1999

Now Available at NCREL...

Computer-Based Technology and Learning: Evolving Uses and Expectations

Order No. TL-CTL-P99

When it comes to technology integration, proponents and critics, alike, search for proof that technology in the classroom can make learning more meaningful, engaged, and sustained. Policymakers, educators, and administrators want to see long-term learning gains if they are to invest a large amount time and funds integrating technology into the curriculum.

To better understand the impact of technology on learning, the authors document the three distinct phases of educational technology uses and provide cumulative findings around each use: Print Automation, Expansion of Learning Opportunities, and Data-Driven Virtual learning. The following questions are asked in each phase: (1) What evidence is there that the use of computer-based technology had a positive impact on learning? (2) What significance do the finding have for educators today as they try to make technology-related decision that have an impact on student learning?

Presented by: Center for Teaching, Learning, and Curriculum

Planned dissemination to: Participants of the Secretary's Conference on Technology, NCREL Board members and advisory groups, and others.

For more information, contact: Gil Valdez (ext. 1024), Mary McNabb (ext. 3785), or Mary Foertsch (ext. 1268). A limited number of copies are available on the third floor. For larger requests, please contact Stephanie Blaser (ext. 1044)

Pathways Timely Topic: Balanced Reading Instruction

Whole language versus phonics? The latest research shows that effective reading instruction combines the best of both approaches to meet the needs of all children. This balanced approach embeds phonemic awareness (awareness of the separate sounds in words) in reading and writing experiences with whole texts.

Available at: www.ncrel.org/sdrs/timely/britoc.htm

Presented by: Pathways to School Improvement and Center for Teaching, Learning, and Curriculum

For more information, contact: Jan Bakker (ext. 1066), Lynne Huske (ext. 1093), or Mary Foertsch (ext. 1268)

Literacy and Best Practices Web Site

Visit the Literacy and Best Practices Web site to learn how states, districts, and schools handle literacy curriculum development, instruction, and assessment. The site also features a roundtable discussion group as well as links to NCREL resources, state resources, and literacy organizations.

Available at: www.ncrel.org/litweb/

Presented by: Center for Teaching, Learning, and Curriculum

For more information, contact: Mary Foertsch (ext. 1268) or Peggy Tinzmann (ext. 1080)



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Now Available at NCREL...

Policy Issues, Issue No. 3—Launching Comprehensive School Reform: Early Lessons for State and Federal Policymakers

This edition of *Policy Issues* examines the initial responses to the CSRD program from the perspectives of SEAs, districts, schools, and comprehensive school reform model providers in six states.

Specifically, the publication looks at the CSRD program's effect on state reform programs, which schools were targeted by the program and how they heard about it, and why some schools applied for a CSRD grant while others did not. This publication will be available on NCREL's policy Web page.

Presented by: Evaluation and Policy Information Center

Disseminated to: State superintendents, educational service agencies, NCREL board members and advisory groups, CSRD state contacts, policy networks, state and federal policymakers, OERI labs and centers, OERI-funded labs and centers, national and state organizations, and media

For more information, contact: Sabrina Laine (ext. 4999)

Comprehensive Program Planning for the Integration of 21st Century Learning Center After-School Programs With Regular Day Programs and Community Partners

This publication lists 16 characteristics that promote the integration of comprehensive after-school programs with the regular school program and community. Each characteristic is accompanied by a definition (or "indicator") and sample policies and programs from actual schools and districts that illustrate the characteristic. The sample policies and programs are divided into three "stages" of development based on the level of integration they exhibit. This publication will be available online.

Presented by: Center for Scaling Up

Disseminated to: Participants of the 21st Century Community Learning Centers fall trainings

For more information, contact: Stephanie Blaser (ext. 1044)

Profiles of the Regional Educational Laboratories

This directory of the nation's regional educational laboratories features each lab's home page, contact information, mission, specialty area, descriptions of key initiatives and signature programs, and a list of selected products. Also included is a brief history of the regional educational laboratory system and a map showing the REL regions.

Presented by: U.S. Department of Education, Office of Educational Research and Improvement

Disseminated to: NCREL board members and others to be determined

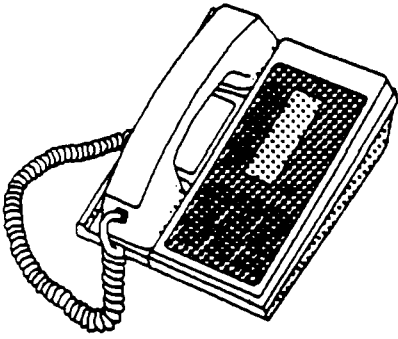
For more information, contact: Marianne Kroeger (ext. 1041)



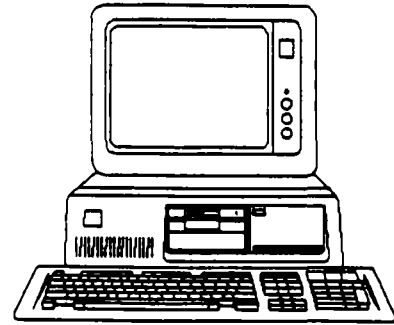
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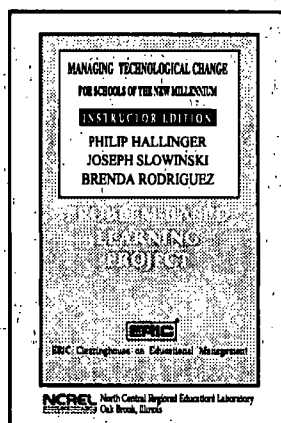
Using our extensive collection of documents regarding educational research and best practice, as well as the Internet, our reference librarians will provide you with a bibliography or resource list - as well as original materials when possible - to help you make good decisions about the learning that takes place in your classrooms and your school.

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for Schools of the New Millennium

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Copublished by ERIC/CEM and the North Central Regional Educational Laboratory (NCREL), this project asks students to assume the role of a principal who is confronted with how best to implement new learning technologies.

The project deals not only with issues such as staff resistance and budgetary constraints, but also ex-

In a PBL environment, instructors present students with problematic situations called *projects*. A project is the basic unit of instruction in a PBL curriculum. Although the problems are simulated, students experience them as real. Working together in small teams, students assume responsibility for responding to the problems they are presented with. Instead of functioning as dispensers of knowledge, PBL instructors serve as observers and advisors.

plores new models for using technology in schools, the implications of technology for instruction and learning, the role technology can play in restructuring, and the development of a long-term technology plan that takes into account the needs of students, teachers, and parents.

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CHARTER SCHOOLS

PROBLEM-BASED LEARNING PROJECT

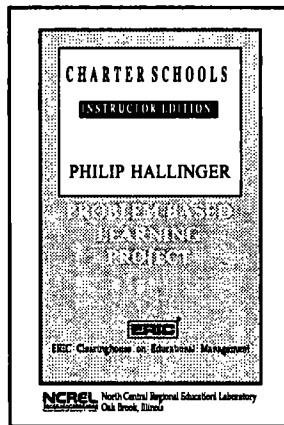
Philip Hallinger • 1999
• Text, 14 pages; reading materials, 77 pages plus the Jossey-Bass book *Charter Schools*, by Joe Nathan.

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This project teaches students the difficulties that may be encountered in the foundation of a charter school. The problem concerns all aspects of a charter school's foundation: beliefs about learning, strategies for achieving racial/ethnic balance, governance structure and management organization, as well as legislative and fiscal matters.

Reading materials include, by special arrangement with Jossey-Bass Pub-



lishers, a paper edition of *Charter Schools*, by Joe Nathan, 1996. This book retails for \$18.00 but is included at no extra cost with the PBL project.

In a PBL environment, instructors present students with problematic situations called *projects*. A project is the basic unit of instruction in a PBL curriculum. Although the problems are simulated, students experience them as real. Working together in small teams, students assume re-

sponsibility for responding to the problems they are presented with. Instead of functioning as dispensers of knowledge, PBL instructors serve as observers and advisors.

This project is the first of several the Clearinghouse will publish in cooperation with the North Central Regional Educational Laboratory in Oak Brook, Illinois. NCREL commissioned Dr. Hallinger to prepare the project.

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BETTER DATA FOR BETTER DECISIONS: Teacher Supply and Demand Data Collection for Seven Midwestern States in the NCREL Region

Executive Summary

February 2000

Prepared by the Center for School Change,
Hubert H. Humphrey Institute of Public Affairs, University of Minnesota

NCREL
North Central Regional Educational Laboratory
"Applying Research and Technology to Learning"

INTRODUCTION

In the fall of 1999, the North Central Regional Educational Laboratory (NCREL) began a project designed to improve regional data collection efforts on teacher supply and demand. Teams from Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin (which included state agency staff, state board staff, and higher education representatives) developed a list of nine indicators of teacher supply and demand that were of highest priority and would be most beneficial to collect across the entire region.

The nine priority indicators agreed to are as follows:

1. The number of new teachers completing teacher preparation programs and the number being licensed by the state
2. Demand for teachers and administrators by licensure area
3. Projected retirements
4. Non-retirement attrition
5. Geographic information across the spectrum (e.g., demand, salary levels, etc.)
6. Out-of-field teaching
7. Alternative preparation and limited licenses
8. Salaries and funding
9. Strategies being employed to attract and retain educators

The Center for School Change at the University of Minnesota conducted research on how individual states, education organizations, and the federal government are responding to data needs in each area. This Executive Summary is based on that research as well as discussion with education agency staff from the seven NCREL states. In it we outline observations that are relevant across all indicators and others that are specific to each indicator. We also provide a list of relevant data sources and describe how they might offer information on proposed NCTAF data points.

SUMMARY OBSERVATIONS

1. State departments involved in the study are collecting a great deal of data relevant to teacher supply and demand (and other areas of interest to NCTAF). However, the comparability of the data is often an issue, and the capacity of state agencies to analyze the data in meaningful ways on a regular basis is, in many cases, limited.
2. While state departments are collecting lots of data, some of the most important data for determining the supply-and-demand picture are not part of current collection. For example, demand data are not collected in a majority of the states studied.
3. Using data to understand progress toward goals over time requires more than "snapshot" studies; it requires stable systems that collect and report comparable data over time. Most of the states under study do not have such a system in place for looking at supply-and-demand trends.
4. Obtaining a good picture of teacher supply and demand across the region will require additional data collection on the part of someone.

5. Developing comparable data collection across the region is likely to involve changes in priorities and in the way some states do things. For some states, a compelling case still needs to be made for the value of regional (or national) collection.
6. The National Center on Education Statistics, Education Week, the Education Commission of the States, the American Association of Colleges for Teacher Education, the National Education Association, the American Federation of Teachers, and other national organizations collect a great deal of relevant data. In order to reduce duplication, enhance comparability, and access needed information, those involved in regional efforts (e.g., NCREL) or organizational efforts (e.g., NCTAF) need to be or become well connected with those making decisions about national data collection efforts and attempt to influence these efforts.
7. At this time, there is no commonly accepted econometric model for educator supply and demand. Some state agencies in charge of workforce issues are beginning to discuss the development of such a model.
8. There is no consensus on some seemingly straightforward and key definitions, such as "supply" and "demand." For example, a new supply of teachers for a given state might include all or some portion of those teachers that complete preparation programs in that state, that receive new licenses, that have a license but are not currently teaching, and that are prepared or are currently teaching in another state.
9. Supply-and-demand issues often are highly localized by geographic region, teaching area, or ethnicity. Few states analyze data finely enough to detect localized problems/issues.

INDICATOR ONE—SUPPLY OF TEACHERS

Barriers to Regional Collection

- Most states do not collect information on the number of prospective teachers that have completed preparation programs in their state.
- Data collection systems in some states do not allow separate reporting of newly licensed teachers and current teachers receiving additional licenses or endorsements.
- License definitions vary across the states and affect how data about the number of newly licensed teachers can be reported, compared, and combined.
- Little is known about two important sources of supply: teachers from other states or the "reserve pool" of educators who possess a valid license but are not currently teaching.

Short-Term Solutions (These solutions involve little or no additional data collection.)

- Report available data on the number of new licenses issued by teaching area.
- Use "program completer" data from the Integrated Postsecondary Education Reporting System (IPERS).

Long-Term Solutions (These solutions involve additional data collection.)

- Make use of Title II “program completer” information.
- Conduct research across the region on the mobility of the teacher supply across state borders. This research might be modeled after research conducted in Wisconsin that analyzes the applicants for positions in representative districts. Such a study might look at who applies, why they apply, where they were educated, where they are from, trends in the number of applicants for different types of jobs, and, possibly, the effectiveness of various recruitment efforts.
- Conduct original research across the region on the “reserve pool.” Such research might look into who returns to teaching after extended leaves, why they return, what might entice them to return, etc.
- Perform new analyses on new hire data currently collected by states. For example, the analysts might ask how many new hires are from other states, how many are returning after a leave, how many are transferring from another district in the state, etc.
- Work with individual states to develop systems capable of reporting data on new licenses in meaningful, comparable ways.

INDICATOR TWO—DEMAND FOR TEACHERS

Barriers to Regional Collection

- Most states do not collect regular information about projected demand for teachers, and the states that do, use different approaches for determining demand. For example, Wisconsin looks at demand as a function of the number of newly hired teachers, the percentage of new graduates receiving employment, attrition rates (for retirement and other reasons), the number of applicants for positions in selected districts, and enrollment projections. Illinois, however, used the number of new hires plus the number of unfilled positions in their most recent study. Minnesota asked administrators to assess the number of high-quality applicants for recent job openings and project needs over the next five years.

Short-Term Solutions

- Use existing data from states, the American Association of Employment in Education, and the National Bureau of Labor Statistics to develop a rough picture of demand in the region.
- Convene a group at the upcoming NCREL Regional Supply and Demand Summit to discuss various ways of looking at teacher demand and to develop a consensus.

Long-Term Solutions

- Work with states to develop systems that can measure demand.
- Collaborate with the National Center on Education Statistics to use data being collected as part of their Schools and Staffing 2000 Survey (SASS) and, perhaps, conduct regional follow-up surveys on the same sample.

INDICATOR THREE—RETIREMENTS

Barrier to Regional Collection

- Most states do not project retirements by teaching assignment or teaching location even though there is some evidence that rates vary. A recent Minnesota study applied a probability model to predict retirements of current staff. The results of this study point to higher levels of projected retirements in some rural areas of the state and in some shortage areas such as science and math.

Short-Term Solutions

- Use broad projections currently available from states and/or retirement associations.
- Develop probability models for each state and apply to data on years of service and age of current staff.

Long-Term Solution

- Develop collaborations between state education agencies and retirement associations that allow retirement projections by teaching area and location. Retirement associations project retirements among members but do not have information on teaching assignments or location. This information is, however, maintained by all of the states in the region.

INDICATOR FOUR—NON-RETIREMENT ATTRITION

Barrier to Regional Collection

- Most states that do look at overall attrition do so by comparing teacher data from one year to the next. If a teacher is listed in the first year but not the subsequent year, they are counted in attrition figures. Most states in the region do not collect information about why teachers have left, which may mask a number of important things. Layoffs or reductions due to reduced enrollments may be included in this figure; retirements certainly are included (which we know are increasing over the next decade); temporary or short-term leaves may be counted in the same way as more permanent reasons for leaving, etc. Illinois and Minnesota collect information about why someone has been terminated, which allows for a more comprehensive and accurate look at how many people are leaving.

Short-Term Solution

- Use data currently available from states and data from the National Center for Education Statistics' *Characteristics of Stayers, Leavers, and Movers* study.

Long-Term Solutions

- Work with states to add information about why teachers have left to their current data collection systems.
- Collaborate with states, the National Center for Education Statistics, the National Education Association, and/or the American Federation of Teachers to develop a regional survey of teachers who have left the profession.

INDICATOR FIVE—INFORMATION BY GEOGRAPHIC AREAS

Barrier to Regional Collection

- Many states do not collect or report data by geographic region, even though there is a great deal of evidence that supply-and-demand issues vary by geographic location, among other factors. Wisconsin, Minnesota, and Illinois have looked at some supply-and-demand issues based on location. Illinois, for example, separates Chicago from the rest of the state.

Short-Term Solution

- Summarize what is known about geographic variations for those states that collect such information.

Long-Term Solutions

- As part of a regional supply mobility study, look at the influence of location on the number/quality of applicants for open positions.
- Work with states to create systems that connect multiple sources of data. Such connections would ideally allow for geographic analyses of currently collected information.

INDICATOR SIX—OUT-OF-FIELD TEACHING

Barriers to Regional Collection

- Not all states collect information about out-of-field teaching.
- The states that do collect and report such information uniformly define out-of-field teaching as someone who is teaching a subject for which he or she does not hold a valid license. Since requirements for a license vary from state to state, these numbers are not technically comparable. The major/minor approach also may become unworkable as states move toward performance-based approaches to licensure.

Short-Term Solutions

- Report data as the states have defined it.
- Use School and Staffing Survey data about the percentage of teachers not possessing a major or minor in their field.

Long-Term Solution

- Use Title II data about the number of teachers with waivers from full licensure.

INDICATOR SEVEN—ALTERNATIVE LICENSES AND ALTERNATIVE PREPARATION PROGRAMS

Barrier to Regional Collection

- Most states do not collect information about alternative routes to teacher preparation.

Short-Term Solution

- Use information collected and reported annually by the National Center for Education Information. This center produces a report that summarizes alternative state licensure programs and will be evaluating these programs state by state.

Long-Term Solution

- Use data required by Title II about alternative programs.

INDICATOR EIGHT—SALARIES AND FUNDING

Barrier to Regional Collection

- Salary data is available in most states but the capacity to analyze it may be limited. For example, several of the states in the region collect information about individual salaries. This data could be analyzed in a number of ways to see what happens to salary levels of individuals who transfer between districts in a state or whether salary level affects attrition rates, etc.

Short-Term Solution

- Conduct original analyses at the regional level that compare high, median, and low salary levels in bordering districts.

Long-Term Solution

- As part of a regional supply mobility study, look at the influence of salary level on the number/quality of applicants for open positions

INDICATOR NINE—STRATEGIES FOR ATTRACTING AND RETAINING EDUCATORS

Barriers to Regional Collection

- Most states do not collect information about efforts being made at the local level to attract and retain educators. However, most states do collect information about state-level programs.
- Many state-level programs have not been in existence long enough to have a track record of effectiveness. However, there is little evidence that states have put in place adequate evaluation systems to judge their effectiveness over the long term.

Short-Term Solution

- Use *Quality Counts 2000* data on state-level efforts.

Long-Term Solution

- Conduct regional data collection on what is being done at the local level and how effective these efforts have been.

NEXT STEPS

On March 9–10, 2000, NCREL will sponsor a Regional Summit on Teacher Quality and Issues of Supply and Demand. Participants will receive information about the gaps in data collection identified as part of this research project and about how NCREL might assist states in the region with building their data collection and analysis capacity around issues of teacher quality. In addition, a summary of what the available data tell us about teacher supply and demand across the region will be presented.

The summit is being designed as a working meeting where teams from each state, representing a broad spectrum of interests, will spend much of their time together developing state-level and regional responses to the challenge of ensuring high-quality teachers for every student.

NCREL

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