



**Additional briefs include:**

Strategies for Improving  
Academic Achievement  
and Teacher Effectiveness

Goals

Steps to Increase  
Accessibility

Promotion of Curricula  
and Teaching Strategies  
That Integrate Technology

Professional Development

Technology  
Type and Costs

Coordination with  
Other Resources

Integration of Technology  
with Curricula and Instruction

Innovative  
Delivery Strategies

Parental Involvement

Collaboration with Adult  
Literacy Service Providers

Accountability Measures

*Collection of Key  
Questions to Consider*

## Supporting Resources

*Local technology applications and plans should include a description of the supporting resources, such as services, software, other electronically delivered learning materials, and print resources, that will be acquired to ensure successful and effective uses of technology.*

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### Overview

Once hardware, professional development, and connectivity are in place, it's the careful consideration of cost, acquisition, and use of supporting resources that can boost a technology plan from adequate to highly effective. Working together, technology and curriculum coordinators are in the best position to investigate what sorts of supporting resources are available, and more importantly, to articulate a plan for how those resources will enrich curriculum and impact student achievement.

#### Key Questions to Consider

- What supporting resources and services do you already have available that effectively leverage and expand your technology investment? Where are the gaps?
- What untapped community resources are available that can provide hands-on support of technology-enhanced learning? For example, are there local institutions of higher education that can help investigate alignment of proven practices for technology integration and the methods used at your school or district?
- Does your school or district provide an expectation and structures that encourage technology and curriculum coordinators to plan together so that software, services, and resource acquisition link directly to current curriculum priorities? Are there particular supporting resources that can assist in this sort of ongoing collaboration?

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## Strategies for Addressing Local Technology Applications and Plans

### *Technology Means More Than Access to Computers*

While access to hardware, peripherals (digital cameras, scanners, etc.), and Internet connectivity are important basics, other key resources are necessary to ensure the effective use of such technology investments in schools. These supporting resources include publications, informational services, and known research that involve applications of technology in content area curriculum, and the professional development needed for educators to use them effectively. This thinking is drawn, in part, from a recent presentation by Richard Elmore, where he noted that “increase in school quality and performance over time requires a relentless focus on the instructional core in the context of a standards-based system” (Elmore, 2002). Technology is no exception.

*“Technology integration is a complex challenge that is not easily addressed with a single intervention.”*  
(The Knowledge Loom, Technology Leadership Spotlight)

It’s helpful to begin by listing the technology resources and services already available at your site and then reflecting on how these resources serve the school’s stated curriculum objectives and standards-based learning in general. Some of the connections will be obvious, such as when you review content-specific software titles, science probeware, and the like. But when you consider your software and peripherals that are general “tools” rather than content-specific applications, other questions arise: Are the digital cameras we own used to help students understand science concepts? How can software like Inspiration™ be used to support literacy development? Does our Internet connectivity and access provide ample opportunities for students to interact with real-time data and current information not available via textbooks? Do our teachers and students have the opportunity to pursue learning beyond what is offered in our own building or nearby institutions? Do we need to purchase more tools, applications, and services or rethink the ones we have?

### *Enhancing the Investment*

There are a variety of resources and services that schools can and should consider when describing and justifying the support resources needed for exemplary technology integration. Consider the following:

- subscription services that provide access to current periodicals and journals for student research (e.g. ProQuest <http://www.proquest.com>);

- subscription resources that provide access to education research to support professional learning (e.g. EduPortal <http://www.ers.org/eduP/>);
- access to free and fee-based seminars that allow educators to access colleagues and content beyond their geographic regions (e.g. ALA ICONnect Online Courses <http://www.ala.org/ICONN/onlineco.html>);
- memberships and partnerships in virtual K–12 schooling opportunities (<http://www.dlrn.org/virtual.html>);
- subscriptions to publications about technology and learning;
- district/school curriculum support staff who can model effective technology integration; and
- partnerships with community organizations that are studying and demonstrating evidence-based, technology-supported teaching and learning.

## Extended Resources

Technology Counts 2002

<http://www.edweek.com/tc02/>

Fifth edition of *Education Week's* annual 50-state educational technology report, focused on how state and district e-learning initiatives are changing the education landscape.

The Knowledge Loom: Good Models of Teaching with Technology Spotlight

<http://knowledgeloam.org/gmott>

Presents principles drawn from recent research and stories about the principles in action to help practitioners make informed decisions about effective technology integration.

The Eisenhower National Clearing House

<http://www.enc.org/>

A Web site that provides guides, tools and exemplary lessons for math and science educators.

Virtual High Schools: State of the States

[http://www.cait.org/shared\\_resource\\_docs/vhs\\_files/vhs\\_study.pdf](http://www.cait.org/shared_resource_docs/vhs_files/vhs_study.pdf)

A study of the planning and operation of virtual high schools.

NEIRTEC Partners:



LearningInnovations  
at West Ed



Designing for Technology Integration (DTI)

<http://neirtec.terc.edu>

This resource provides a model example of a two-day, face-to-face institute followed by six weeks of online learning for school-based leaders in various roles.

EdTech Leaders Online (ETLO)

<http://www.edtechleaders.org/>

This program provides an example of how districts can develop the capacity to offer effective online professional development from within their organizations.

## References

Northeast & Islands Regional Educational Laboratory at Brown University. *The Knowledge Loom: Technology Leadership Spotlight*. Retrieved June 3, 2002. Available online at <http://knowledgeloom.org/tech/>.

Elmore, R. F. (2002). *Practice for Improvement*. Presentation given at the 14th Annual Northeast Superintendents' Leadership Institute, Newport, Rhode Island.

Technology Briefs for  
NCLB Planners can be  
obtained by visiting  
<http://www.neirtec.org>.

Technology Briefs for No  
Child Left Behind  
Planners was developed by  
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