



**Additional briefs include:**

Strategies for Improving  
Academic Achievement  
and Teacher Effectiveness

Goals

Promotion of Curricula  
and Teaching Strategies  
That Integrate Technology

Professional Development

Technology  
Type and Costs

Coordination with  
Other Resources

Integration of Technology  
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Innovative  
Delivery Strategies

Parental Involvement

Collaboration with Adult  
Literacy Service Providers

Accountability Measures

Supporting Resources

*Collection of Key  
Questions to Consider*

## Steps to Increase Accessibility

*Local technology applications and plans should include a description of the steps the applicant will take to ensure that all students and teachers have increased access to technology. The description must include how the applicant will use Ed Tech funds to help students in high-poverty and high-needs schools, or schools identified for improvement or corrective action under section 1116 of Title I, and to help ensure that teachers are prepared to integrate technology effectively into curricula and instruction.*

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### Overview

The issue of increased accessibility to technology has taken on new meaning for teachers and students, even as connectivity has improved and the number of computers in schools has steadily increased. Accessibility extends beyond hardware and connections to encompass a complex combination of factors that includes training, content, attitudes, learner differences, and supportive environments for both teachers and students.

#### Key Questions to Consider

- Are your educators trained and encouraged in a supportive environment to utilize technology with content that will effectively enhance the achievement of all students (regardless of gender, socioeconomic status, race, ethnicity, or special needs)?
- Do your teachers have access to high quality content that is appropriate, relevant, and engaging for every student (regardless of gender, socioeconomic status, race, ethnicity, or special needs)?
- Do all of your students (regardless of gender, socioeconomic status, race, ethnicity, or special needs) have positive, supportive learning opportunities that are hands-on experiences with technology resources and high-quality content?

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## Strategies for Addressing Local Technology Applications and Plans

### *Infrastructure for Technology*

Over the past five years, the CEO Forum Report has chronicled the remarkable progress districts and schools have made in acquiring hardware, establishing connectivity, ensuring teachers receive technology training and integrating digital content into the curriculum. In addition to analyzing these issues, the CEO Forum has developed several useful tools that can be applied during planning for technology. One of these tools, the STaR Chart, provides a useful rubric that a *No Child Left Behind* (NCLB) applicant may apply when analyzing their district's effectiveness of integrating technology into the teaching and learning process. For example, the Texas Education Agency Educational Technology Advisory Committee (ETAC) developed its own version of the STaR Chart for the purpose of planning, budgeting and evaluating technology readiness at the district level. The foundation of these charts is a set of indicators that describe four distinct school types: Early Tech, Developing Tech, Advanced Tech and Target Tech. The Texas STaR Chart provides the following infrastructure indicators for Target Tech schools:

*“Without broad access, there will be little demand for the innovative content and applications that can bring new teaching techniques and new assessment models.”*  
(Web-Based Education Commission)

- Students per computer ratio: One student per computer
- Teacher per computer ratio: One computer per teacher
- Replacement Cycle: Computer replacement established for three or less years
- Internet Access: Internet in all rooms on all campuses; adequate bandwidth to each classroom over the local area network (at least 100 MB or fiber network LAN); easy access for students and teachers; some wireless connectivity
- Distance Learning: Web-based/on-line learning; satellite-based learning over video distribution network; two-way distance learning classrooms in each of the campuses in the district
- Wide Area Network / Local Area Network (WAN / LAN): All campuses connected to the WAN sharing multiple district-wide resources; robust WAN with 100 MB/GB and/or fiber switched network that allows for resources such

as, but not limited to, video streaming and desktop teleconferencing; easy access to network resources for students and teachers, including some wireless connectivity

- Other Technologies: Fully equipped classrooms with technology to enhance student instruction readily available, including all the above as well as new and emerging technologies such as PDAs and IP telephony.

Although the STaR Charts do not provide a definitive measure for determining a specific level of access, they do provide the NCLB applicant with several clearly defined benchmarks that will help them identify the necessary planning steps needed to ensure that all students and teachers have increased access to technology.

#### *Meeting the needs of all learners*

Beyond connectivity and equipment, an effective technology plan addresses the equitable access barriers of gender, poverty, race, ethnicity, and special needs. These barriers, whether subtle or overt, may impact “the students’ ability to use it [technology] toward meaningful goals” (U.S. Department of Education, 2000) and are especially evident in schools that are low performing or that have high needs and few resources. One general strategy to address learner differences includes the application of universal design principles in order to improve usability for all students. Universal Design for Learning (UDL) is a new paradigm for teaching, learning and assessment, drawing on new brain research and new media technologies to respond to individual learner differences (CAST, 2000). UDL strategies include a range of assistive technologies that have emerged to address a variety of special needs, including learning disorders, vision and hearing impairments, and limited fine motor skills. The rapid development of new solutions has resulted in improved assistive technologies at affordable costs that make access possible for every student. Solutions include screen readers, sound amplifiers, and hardware modifications, among others. More approaches to specific barriers may include equal access and relevant content for males and females, culturally relevant resources, and adaptive technologies.

#### *Supporting Curriculum, Assessment and Instruction*

As applicants consider the issue of accessibility, an essential step includes evaluating how technology tools and applications are aligned to the curriculum, assessment, and instruction development process. This alignment will strengthen the expectation that all students will use technology in the learning process, and highlight the

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importance of preparing teachers to deliver honed curriculum units that leverage technology solutions.

### Extended Resources

Benton Foundation

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

This resource provides an excellent resource for developing strategies to articulate a public interest vision for the digital age.

The CEO Forum

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

Nationally recognized program that provides guides, tools and resources targeted at assisting schools to effectively prepare all students to be contributing citizens and productive workers in the 21st Century.

The Texas STaR Chart

<http://www.tea.state.tx.us/technology/etac/>

Modeled after the CEO Forum STaR Chart, the Texas STaR Chart provides districts with planning, budgeting, and evaluating tools.

The Center for Applied Special Technology

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

CAST is a leading organization in applying technology solutions to expand opportunities for all people, including those with disabilities.

Adaptive Technology for the Internet: Making Electronic Resources Accessible to All

<http://www.ala.org/editions/samplers/mates/index.html>

This website provides districts with information on how technology can support people with disabilities.

### References

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

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