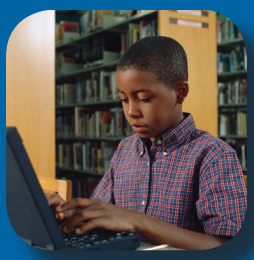
SETDA's National Trends Report 2008







http://www.setda.org

A report from all 50 states plus DC regarding NCLB, Title II, Part D Enhancing Education through Technology (EETT)

Study conducted by the Metiri Group

SETDA

STATE EDUCATIONAL TECHNOLOGY DIRECTORS ASSOCIATION

February 2008

The State Educational Technology Directors Association (SETDA) was established in the fall of 2001 and is the principal association representing the state directors for educational technology. www.setda.org

Metiri Group is a national consulting firm located in Los Angeles, California, which specializes in systems thinking, evaluation, and research related to educational technology. www.metiri.com

Copies of the report on survey findings can be accessed in PDF format at www.setda.org.

Message to the Reader

The No Child Left Behind, Title II, Part D, Enhancing Education Through Technology (NCLB IID) program requires that participating State Education Agencies (SEAs) and Local Education Agencies (LEAs) focus their uses of technology on closing the achievement gap. While currently most states are implementing Round 6 (FY07) of the funding cycle, this report provides insights into the program implementation for Round 5 (FY06) and documents trend data across Rounds 1- 5.

For the last five years, SETDA has commissioned the Metiri Group to work with the Data Collection Committee, to conduct a national survey to answer questions about the implementation of NCLB IID. The findings from SETDA's national survey provide states, local school districts, policymakers, and the U.S. with insights into the following questions:

- How are grant recipients across the nation structuring their state programs to meet NCLB IID goals?
- What administrative structures are used by states to guide and support LEAs in structuring programs to achieve the NCLB goals?
- Is there evidence that the implementation of the NCLB IID program has advanced the goals and purposes as outlined in federal law?

In this fifth year of implementation of NCLB IID, a number of NCLB IID Projects are highlighted as excellent examples of how this important federal program has positively impacted teaching, learning, leadership, and technology literacy in America's schools. SETDA expresses its sincere appreciation to the state technology directors who completed the survey.

- The Data Collection Committee

Deborah Sutton, Missouri
**Committee Chair
Bill Romond, Vermont
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Brenda Williams, West Virginia
John Merritt, West Virginia
Steve Sanders, Wisconsin
Stuart Ciske, Wisconsin

- SETDA Staff Members

Mary Ann Wolf, Executive Director
Christine Fox, Director of Professional Development and Research

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Section I: Introduction

The No Child Left Behind, Title II Part D Program

The technology component of the No Child Left Behind federal program (NCLB) provides funding for technology to aid high-need students in schools across the nation. The three goals of NCLB IID as stated in Section 2404 of the NLCB Title II Part D law are listed below.

NCLB Title II Part D Goals

(1) PRIMARY GOAL- The primary goal of this part is to improve student academic achievement through the use of technology in elementary schools and secondary schools.

(2) ADDITIONAL GOALS- The additional goals of this part are the following:

- (A) To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the 8th grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
- (B) To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by state Educational Agencies and local educational agencies.

For the first four years of the program states were required to distribute 50% of the funds available for grants to schools districts through NCLB IID funds equally for formula and competitive awards. In the 2006 appropriations bill, Congress cut the funding for this program from the previous year's $461 million to $253 million for the 50 states and Washington DC. This drastic cut in funding, in some cases, caused the size of the formula grants to be too small to have an impact on student achievement. Therefore, Congress also included the language allowing states to focus up to 100% of the NCLB IID funds for competitive awards. This change provided the states with the flexibility required to ensure that the funds awarded best met the needs of the LEAs and states.

The Trends Report

The findings from this report represent survey data on the NCLB IID program for Round 5 (FY06). The survey data were collected from a single respondent – in most cases the state technology director – who represented the state education agency in each of 50 states and the District of Columbia. The number of local education agencies represented by the state survey respondents is 15,962. Within those 50 states and the District of Columbia, 13,583 districts were eligible for formula and/or competitive NCLB IID funds, representing 85% of LEAs. The number of LEAs eligible for NCLB IID funds in Round 5 decreased from Round 4 due to the number of states that opted to distribute all their NCLB funds through competitive awards. Eligibility criteria are different for formula and competitive grants. The federal law requires that eligibility for competitive grants include a "high-need" criterion. Thus, while 90% of LEAs were eligible for grants in states that continued providing both formula and competitive grants, just 59% of LEAs were eligible in states that distributed their NCLB IID funds through competitive grants only. Note: The percentage of LEAs actually receiving grants could increase through partnership grants.

Collectively, the survey respondents (representing the 50 states and the District of Columbia only) administered $253 million in NCLB IID funding for Round 5, FY06. Overall, 1,096 competitive grants and 11,407 formula grants were awarded in Round 5 (FY06) across the 50 states and the District of Columbia.

This report is intended to inform national policymakers on the progress of state education agencies (SEAs) and local education agencies (LEAs) in achieving NCLB IID goals, as well as to seed SEAs and LEAs with current information on the emergent results from the program nationally, and the strategies and tactics other states and school districts are using to get such results.

Methodology

Metiri Group has been commissioned for the past five years to conduct the state-by-state survey and write SETDA's National Trends Report. Consistent with other federal programs, it is the responsibility of each state to collect, analyze, and report to the U.S. Department of Education its progress in meeting NCLB IID goals. The state survey is intended to be one of a suite of assessment tools developed to collect data on the implementation of the Round 5 NCLB IID program at the state level.

This report is based on an analysis of data collected through a state-level survey of state technology directors. The questions included in the state survey instrument have evolved over the five years since its inception. The original set of questions was based on the policy sections of the Common Data Elements (CDE) framework and on NCLB IID requirements. Following several iterations of review and revision by the Data Collection Committee, Metiri Group produced an online version of the survey each of the last five years. That online survey was subsequently field tested by members of the Data Collection Committee. Once finalized, SETDA requested that the 50 states and the District of Columbia complete the survey. The data collection for Round 5 (FY06) was held in the fall of 2007. Between September 16, 2007, and October 15, 2007, 50 SEAs and the District of Columbia completed the survey.

SETDA Framework

This report provides information on the states' implementations of Round 5 funding (FY06) in the context of the NCLB IID goals and purposes. The report was developed using SETDA's framework for the effective use of technology in schools. SETDA commissioned the Metiri Group to work with the SETDA Common Data Elements (CDE) Task Force to develop both the framework and statistically reliable instruments for assessing national, state, and local progress in using technology to advance learning goals. The framework is based on a set of key questions to which indicators and data elements are aligned. A suite of statistically valid protocols and instruments is available to the states. That suite of tools, correlated with student data, enables states to understand trends in their use of technology to improve learning. The Profiling Educational Technology Integration (PETI) tools can be accessed at http://www.setda-peti.org/

State Reports

This year, 50 states plus the District of Columbia participated in the fall 2007 SETDA survey. SETDA is providing individual states and the District of Columbia with a comprehensive state profile based on the

survey data. That profile, combined with information on state use of the PETI tools SETDA is offering, has proven to be a rich source of data to inform a state's progress in meeting NCLB IID goals. Please visit http://states2.metiri.com/ to view the state level reports.

Executive Summary

Round 5 (FY06) of the NCLB IID Program

The State Educational Technology Directors Association (SETDA) is pleased to release its fifth annual National Trends Report on the use of federal funds to support educational technology. This report documents findings from Round 5 (FY 06) of the No Child Left Behind, Title II, Part D, Enhancing Education Through Technology (NCLB IID) program.

The findings in the Round 5 report are based on surveys from 50 states and the District of Columbia, representing 15,962 LEAs and the federal NCLB IID dollars allocated across the United States in FY06. Data from the first four annual National Trends Reports for Rounds 1-4 are included for comparisons. In Round 5, the respondent states and the District of Columbia awarded 1,096 competitive grants and 11,407 formula grants that together with the funds allocated for SEA program administration (5% or less) represent $253 million in funds expended at the state education agency (SEA) level. (Note, that figure does not include the U.S. territories' allocations for NCLB IID.)

This year's SETDA National Trends Report is about scaling back, prioritizing, researching, leveraging, and expanding successful practices. With funding cut from $461 million in Round 4 (FY05) to $253 million in Round 5 (FY06), states found it necessary to make hard choices about priorities. Most states concentrated on professional development and leadership, as these were recognized as the elements of school programs that have the most sustainable effects. In addition, states focused on specific programs, ratcheting up the fidelity of program implementation and with it, the effectiveness of the program. As in past years they also concentrated on professional development as the pathway to effective technology use.

Eight major trends were noted related to the funding, administration, implementation, and evaluation of the federal NCLB IID program:

Trend 1: The Cuts to NCLB IID Funding Go Deeper
For the first few years of the NCLB IID program, funding was stabilized at approximately $600 million annually (for the 50 states and the District of Columbia). However, beginning in FY05 that level was reduced significantly by Congress, resulting in a 60% reduction from FY04 to FY06.

Trend 2: States Are Facilitating High-Quality Research
States have released findings from experimental or quasi-experimental research studies on the impact of NCLB IID programs on student academic achievement. Overall, results reported are generally positive.

Trend 3: Academics Continue To Be Top Priority for NCLB IID
Throughout the history of the NCLB IID program the LEA competitive grants have strongly emphasized student outcomes in mathematics and literacy. In Round 5 grantees increased the emphasis on mathematics, continued the emphasis on literacy, and added a strong emphasis in science.

Trend 4: Integration is Critical to Developing Technology Literacy
States are increasingly using integration as the means to student technology literacy.

Trend 5: State Policies Scale Effective Practices
States are increasingly offering LEAs opportunities to adopt fully developed programs that have been shown to work, when implemented with fidelity.

Trend 6: Progress Through Leadership and Professional Development
With funds severely cut from previous years, states see effective professional development models and leadership as the key to advancement of the NCLB IID program goals.

Trend 7: Wanted: Digital Content and Digital Learning Environments
Effective use of technology in schools requires high-quality, digital content and virtual learning spaces, in addition to access to technology tools and high-speed networks.

Trend 8: Leveraging Data-Informed Decision Making
States are building the capacity of schools to make data-informed instructional decisions.

A significant change in funding and federal legislation went into effect in FY06. In the federal fiscal year 2006 appropriations bill, Congress cut NCLB IID funding by 45% from the previous year and included language overriding the statutory provision that SEAs use 50% of the amount available for grants to LEAs for formula awards and 50% for competitive awards. The FY 2006 appropriations language provides SEAs with the flexibility to reserve up to 100% of their allocations for competitive awards to eligible local entities. This language was included because, in some cases, the reduction in funding caused the size of Formula Grants to be so small that there would be little or no impact on student achievement. Given that flexibility in Round 5, 10 states opted to distribute all of the available Enhancing Education Through Technology (NCLB IID) funds through competitive grants, while 40 states and the District of Columbia continued to provide nearly 50% of their funds to LEAs through formula allocations. Those states that shifted all funding to competitive funds were Arkansas, Georgia, Idaho, Indiana, Iowa, Missouri, New Hampshire, Pennsylvania, Rhode Island, and West Virginia.

After Five Years of NCLB IID

The eight trends listed above strongly indicate that the states are working with their local school districts to design and implement programs that directly support the NCLB IID goals.

The 50 states and the District of Columbia report the following results from the first five rounds of NCLB funding for formula grants. Their reports indicate they have evidence that the implementation of the NCLB IID program has advanced the goals and purposes as outlined in federal law.

NCLB IID Goals	Progress Reported by State Technology Directors
PRIMARY GOAL – Improve student academic achievement through the use of technology in K12.	State technology directors identified the following indicators of progress toward the Primary Goal: • Increased levels of 8th grade technology literacy in students • Alignment of technology investments to academic achievement goals • Increases in student achievement in mathematics and literacy • Expanded, differentiated opportunities for students to learn

NCLB IID Goals	Progress Reported by State Technology Directors
	• Increased access to technology, software, and resources

NCLB IID Goals	Progress Reported by State Technology Directors
ADDITIONAL GOAL (A) – Assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the 8th grade, regardless of the students' race ethnicity, family income, geographic location, or disability.	State technology directors identified the following indicators of progress toward Goal (A): • A decrease in the student-to-computer ratio • Upgrades in computer workstations and increased access to laptops • Faster, more robust networks and infrastructure • Progress in closing the digital divide • Expanded, differentiated opportunities for students and teachers to learn • New learning opportunities through virtual, online access and resources
ADDITIONAL GOAL (B) – To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices.	State technology directors identified the following indicators of progress toward Goal (B): • Increased technology proficiency and capacity of teachers to use technology effectively in learning and teaching • Support for mentors and coaches for instructional technology support for teachers • Updating of district technology plans • Progress in integrating technology into curricula • Establishment of linked data systems • Collaboration in leveraging available funds for educational technology • More informed, data-driven decision making • A more definitive research base on the impact of technology on student learning • Valued partnerships with universities, private sector partners, non-profits, and other education communities • Expanded, differentiated opportunities for teachers to learn • New learning opportunities through virtual, online access • Timely outreach to educators regardless of time and place • Identification of technology-supported learning solutions that have been proven to be effective • High-quality, differentiated professional development for teachers and administrators

The results for Round 5 have been limited by the reduction in federal NCLB IID funding in FY06. While the findings for Round 5 indicate that the states are implementing the NCLB IID program as prescribed

by law, the cuts have caused significant reductions in the scope. One of the most positive trends reported in Round 5 was the growing number of states conducting research studies on programs funded through the NCLB IID federal investment. While the number of studies is limited – due, in part, due to the lack of NCLB IID funds allocated for research – the study findings are generally positive.

Section II: Trends

The NCLB IID program was intended to integrate and consolidate the use of technology into the mainstream of teaching, learning, and leadership in U.S. public elementary and secondary schools. Such positioning of technology was a critical public acknowledgement of the importance of technology in reaching the overall NCLB goals in addition to the specific goals of NCLB IID. It also highlighted the importance of building a research basis from which to inform decisions related to educational technology and the absolute necessity for leadership, capacity building, and robust technological infrastructures. Finally, it demonstrated the inherent complexity of transforming schools through technological innovation, and the importance of grounding such transformation in the emergent research from the learning sciences.

Trend 1: The Cuts to NCLB IID Funding Go Deeper
For the first few years of the NCLB IID program funding was stabilized at approximately $600 million annually (for the 50 states and the District of Columbia). However, beginning in FY05 that level was reduced significantly by Congress, resulting in a 60% reduction from FY04 to FY06.

Trend 2: States Are Facilitating High-Quality Research
States have released findings from experimental or quasi-experimental research studies on the impact of NCLB IID programs on student academic achievement. Overall, results reported are generally positive.

Trend 3: Academics Are the Top Priorities of NCLB IID Grantees
Throughout the history of the NCLB IID program the LEA competitive grants have strongly emphasized student outcomes in mathematics and literacy. In Round 5 grantees increased the emphasis on mathematics, continued the emphasis on literacy, and added a strong emphasis in science.

Trend 4: Integration is Critical to Developing Technology Literacy
States are increasingly using integration as the means to student technology literacy.

Trend 5: State Policies Scale Effective Practices
States are increasingly offering LEAs opportunities to adopt fully developed programs that have been shown to work, when implemented with fidelity.

Trend 6: Progress Through Leadership and Professional Development
With funds severely cut from previous years, states see effective professional development models and leadership as the key to advancement of the NCLB IID program goals.

Trend 7: Wanted: Digital Content and Digital Learning Environments
Effective use of technology in schools requires high-quality, digital content and virtual learning spaces, in addition to access to technology tools and high-speed networks.

Trend 8: Leveraging Data-Informed Decision Making
States are building the capacity of schools to make data-informed instructional decisions.

The 8 trends suggest that not only are the states implementing the NCLB IID program as prescribed by law, but that such programs, when implemented with fidelity, do advance the NCLB goals.

The following pages provide insights into the eight key findings from the SETDA Trends Report for Round 5 (FY06) of NCLB IID. Table 1 on the following page lists the NCLB IID allocation to the 50 states and the District of Columbia for the prior five years of funding.

Table 1. Educational Technology State Grants, in Millions

States	Round 1 FY 2002	Round 2 FY 2003	Round 3 FY 2004	Round 4 FY 2005	Round 5 FY 2006	Percentage Decrease (Rounds 1-5)
Alabama	$8.8	$9.7	$9.9	$7.2	$4.1	-53.4%
Alaska	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Arizona	$10.1	$9.7	$12.2	$9.3	$5.3	-47.5%
Arkansas	$5.5	$5.5	$6.1	$4.6	$2.5	-54.5%
California	$85.1	$90.0	$93.3	$65.6	$35.0	-58.9%
Colorado	$5.6	$5.5	$5.9	$4.5	$2.6	-53.6%
Connecticut	$6.2	$5.2	$5.5	$3.8	$1.9	-69.4%
Delaware	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
District of Columbia	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Florida	$28.3	$29.2	$30.9	$22.8	$13.4	-52.7%
Georgia	$18.6	$18.6	$20.2	$15.2	$8.4	-54.8%
Hawaii	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Idaho	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Illinois	$25.5	$25.9	$27.6	$19.9	$11.0	-56.9%
Indiana	$9.0	$7.8	$8.6	$6.4	$3.8	-57.8%
Iowa	$3.5	$3.2	$3.3	$2.4	$1.3	-62.9%
Kansas	$4.3	$4.7	$4.2	$2.9	$1.6	-62.8%
Kentucky	$8.8	$8.6	$8.9	$7.0	$3.7	-58.0%
Louisiana	$11.5	$14.2	$14.3	$10.4	$5.7	-50.4%
Maine	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Maryland	$9.1	$8.1	$8.8	$6.4	$3.5	-61.5%
Massachusetts	$12.8	$14.2	$11.1	$8.3	$3.9	-69.5%
Michigan	$24.3	$20.5	$21.0	$15.9	$8.6	-64.6%
Minnesota	$6.6	$6.1	$5.0	$3.9	$2.2	-66.7%
Mississippi	$6.1	$8.3	$8.3	$6.1	$3.4	-44.3%
Missouri	$9.3	$9.6	$8.1	$7.1	$3.8	-59.1%
Montana	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Nebraska	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Nevada	$3.1	$3.2	$3.5	$2.6	$1.6	-48.4%
New Hampshire	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
New Jersey	$15.0	$14.0	$13.5	$9.8	$5.3	-64.7%
New Mexico	$4.9	$5.8	$6.2	$4.0	$2.3	-53.1%
New York	$60.9	$64.9	$65.7	$45.1	$24.6	-59.6%
North Carolina	$12.7	$14.7	$14.4	$10.8	$6.0	-52.8%
North Dakota	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Ohio	$19.0	$21.0	$20.0	$13.5	$8.0	-57.9%
Oklahoma	$7.1	$6.6	$7.4	$5.1	$2.8	-60.6%
Oregon	$5.5	$6.3	$7.0	$4.5	$2.7	-50.9%
Pennsylvania	$22.8	$23.4	$22.2	$17.7	$9.9	-56.6%
Rhode Island	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
South Carolina	$8.4	$8.7	$8.8	$6.6	$3.7	-56.0%
South Dakota	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Tennessee	$8.3	$10.3	$10.7	$7.6	$4.2	-49.4%
Texas	$50.7	$55.8	$59.4	$44.0	$24.1	-52.5%
Utah	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Vermont	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Virginia	$10.4	$9.9	$10.3	$8.1	$4.2	-59.6%
Washington	$8.3	$8.3	$9.0	$6.5	$3.6	-56.6%
West Virginia	$4.5	$5.1	$5.0	$3.9	$2.0	-55.6%
Wisconsin	$8.5	$7.5	$8.4	$5.9	$3.1	-63.5%
Wyoming	$3.1	$3.2	$3.3	$2.4	$1.3	-58.1%
Total	$595.6	$618.1	$634.2	$461.4	$253.3	-57.5%

*Totals do not include allocations to U.S. Territories. (NOTE: Subtotals and totals are summed from exact figures, and then rounded.)

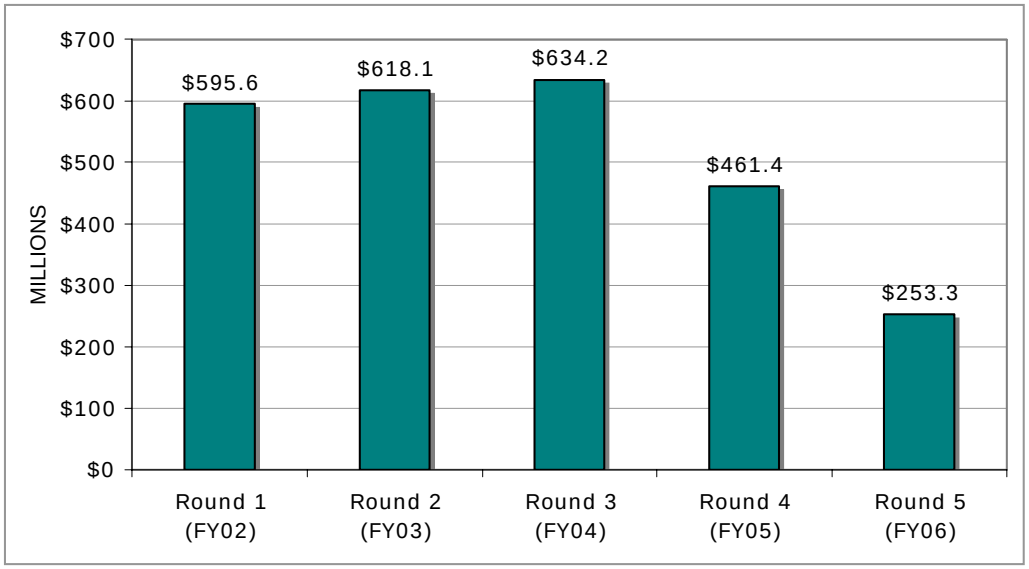
Source: http://www.ed.gov/about/overview/budget/statetables/08stbyprogram.pdf

Trend 1: The Cuts to NCLB IID Funding Go Deeper

For the first few years of the NCLB IID program funding was stabilized at approximately $600 million annually (for the 50 states and the District of Columbia). However, beginning in FY05 that level was reduced significantly by Congress, resulting in a 60% reduction from FY04 to FY06.

Over the last two years funding for NCLB IID was severely reduced, first by a 27% cut in FY05 and another 45% cut in FY06. The Round 5 (FY06) federal allocation of $253.3 represents an acute disruption in states' plans for advancing the NCLB IID goals.

Figure 1. Federal Allocations for NCLB IID for FY02 – FY06 for 50 States and the District of Columbia (Does Not Include Allocations for U.S. Territories)



Source: SETDA Trend Data FY02 – FY06

Twenty-one states report that they do not have any state funds explicitly targeted for educational technology. In those 21 states, NCLB IID funding was the primary source of educational technology funding. Thus LEAs in those states are particularly hard hit by the cuts. In many states the limited number of NCLB IID grants were not sufficient to meet the needs of the multiple schools the NCLB IID legislation was intended to assist.

The cuts took place in a year when 52% of the states were conducting multi-year grant programs through their competitive awards. These multi-year grants are important on several fronts. First and foremost, they enable the LEA to focus their educational technology funds on a specific target over several years, increasing the likelihood of sustainability. Second, they provide an opportunity for LEAs to conduct high-quality evaluation and/or research studies once programs are solidly in place, thus evaluating the true efficacy of a program rather than its potential during startup. And third, they reduce the administrative burden on SEAs and LEAs, enabling them to dedicate a larger portion of time and money on

implementation rather than grant application writing, processing, and administration.

In response to the reductions, some SEAs have cut back on the amount of funding each of the multi-year grantees is awarded. In other cases, the SEAs are cutting back on the number of LEAs that receive the multi-year funding. In both cases, program directors report that the cuts severely limit the long-term impact of this cycle of NCLB competitive awards. Following are some examples of the benefits of multi-year funding.

Competitive Grants Designed to Be Continuation (Multi-year) Grants

State	Competitive Grants Designed to Be Continuation (Multi-year) Grants
MD	The Algebra/Data Analysis Collaborative is a continuation partnership established to support the attainment of skills and knowledge in Algebra/Data Analysis through the use of e Learning. The goals of the Collaborative are to: (1) enhance the online resources for Algebra/Data Analysis in support of the Core Learning Goals and High School Assessment; (2) develop, pilot, and provide online professional development using a consistent protocol based upon the Maryland Teacher Professional Development Standards and focused on providing high quality professional development for teachers of Algebra/Data Analysis; (3) select and pilot the use of a learning object repository in order to make the digital content from the online student course and professional development course accessible to Algebra/Data Analysis teachers; and (4) develop, pilot, and provide a process for online course design, development, implementation, and evaluation.
TX	Floydada Junior High, Floydada, TX. The Technology Immersion Pilot (TIP) is in its third year in Floydada. Due to local funds, Floydada has been able to sustain immersion activities at the middle school. The teachers are now collaborating with each other and completing cross-curricular units that use the available technology as the main medium for creating and completing the assignments associated with the lessons. The technology tools they use have become commonplace tools. They are continuing to grow and find new and innovative ways to create technology rich lessons working toward full immersion. They have become teacher leaders in the district. Successes in student performance steadily move in a positive direction in large part due to what the grant has afforded. Because of the positive results Floydada saw with the first year of the program, they chose to move forward with immersing their high school using local bond funds in year 2. The results of implementing and using these new tools provided by the TIP project has been so positive that this year, they are working with the city on a WI-FI project to bring wireless access to their whole community.

Both of the aforementioned examples have benefited from multiple year funding and were in the last years of their funding cycles. Other states have attempted to honor their commitment to multiple year funding, to ensure that potential benefits are not lost or remain untapped.

Competitive Grants Designed to Be Continuation (Multi-year) Grants (Continued)

State	Competitive Grants Designed to Be Continuation (Multi-year) Grants
CA	Due to the limited funds, and the second and third year grants pending from the previous rounds, there were no new Round 5 grants. Continuation grants, which funded California's Round 3 Follow-up, and Round 4 Year Two funding consumed nearly all of the funds. The remaining funds supplemented the partial funding in Round 4. Round 6 will again award new grants.
CO	Colorado school districts have been affected by the 45% decrease in funding. Even with the decrease, districts have made valiant efforts to ensure that all schools have equitable access to technology. Districts are assessing school equipment annually and allowing each school to specify their needs. Teachers have adequate training to ensure effective technology integration into student curriculum by continuously seeking professional development that is effective and researched based. Districts are continuing their effort to ensure that all students are technologically literate by the end of the 8th grade by embedding technology into student curriculum and creating assessments that monitor and evaluate the use of technology.

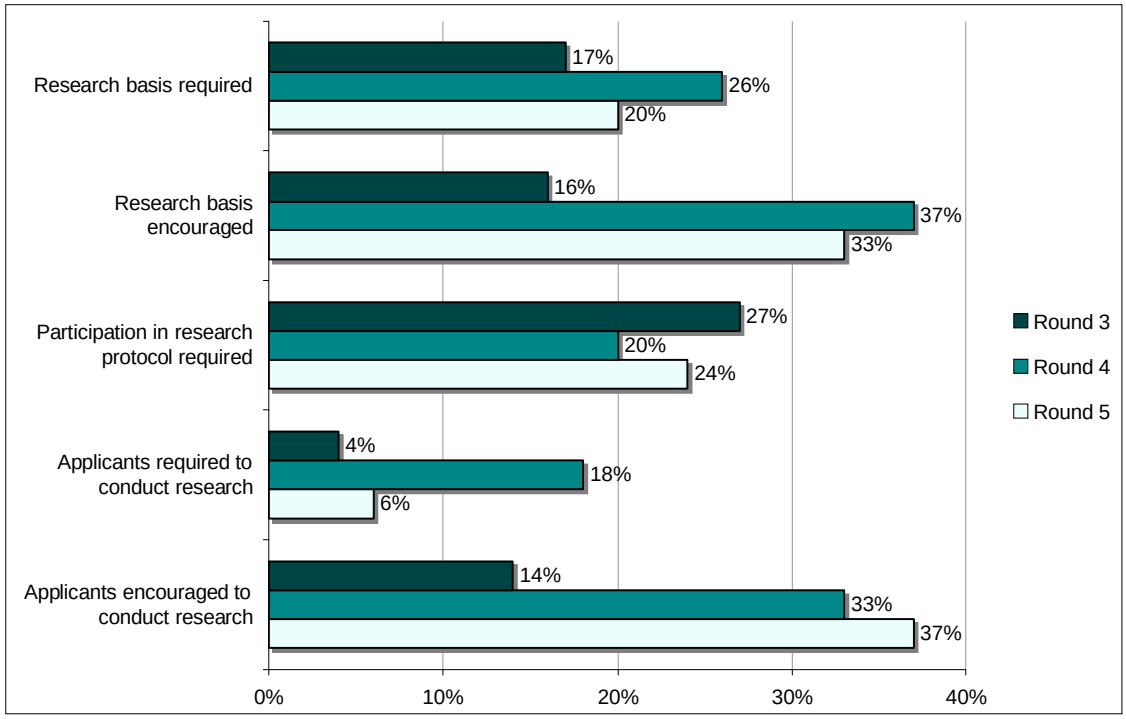
In addition to creating challenges to continuation programs, respondents indicated that the cuts severely limit opportunities that LEAs need to meet the academic achievement and technological literacy goals of the NCLB IID programs.

Trend 2: States Are Facilitating High-Quality Research

States have released findings from experimental or quasi-experimental research studies on the impact of NCLB IID programs on student academic achievement. Overall, results reported are generally positive.

In recognition of the need for reliable and valid studies with causal links between the use of technology and student outcomes, a few states are conducting empirical research studies for NCLB IID projects. The studies demonstrate that, with a well-designed educational technology intervention, and high fidelity of implementation, educators can achieve significant gains in comparison to non-technology control groups. The areas of NCLB IID study to date have been mainly in mathematics and reading/language arts. For the most part, those studies are funded through sources other than NCLB IID. It is to the credit of the SEAs that such studies are linked to NCLB IID programs.

Figure 2. Percentage of States with NCLB IID Policies or Practice Related to Research



Note: Percentages in the figure above include all 50 states and the District of Columbia in Round 3, (N=51), Round 4 (N=51), and Round 5 (N=51).

States report that they also continued to encourage LEAs in Round 5 to conduct research studies on NCLB IID projects. While only 6 states actually required that LEAs conduct research, ten states reported that LEAs had used NCLB IID funds for such purposes in Round 5, resulting in a total of 44 research studies. Those studies reported: 15 findings in reading, 13 in mathematics, 8 in problem solving, 11 in technology literacy, and 6 others in science, social studies, and teacher proficiency. In 24% of the states, SEAs required Round 5 applicants to administer research protocols established by the state. This was a slightly more common occurrence in Round 3, but remains strong in Round 5 at 24%.

A few of the key empirical studies reported in Round 5 are listed below. For the most part, the findings were focused on student achievement in mathematics and reading/language arts. Findings were generally positive.

- North Carolina: A three-year NCLB IID study found that students enrolled in the IMPACT Model made significantly larger gains in mathematics and reading than students did in matched comparison groups.
- Oregon: A study comparing writing samples from students using electronic composition and handwritten composition, showed significantly higher quality in those electronically produced.
- Pennsylvania: A study was conducted comparing the achievement levels of students within the School District of Philadelphia enrolled in schools using an Instructional Management System in comparison to a matched set of students in schools not yet using the IMS. Results showed significantly steeper learning trajectories over a three-year period in the treatment group in comparison to the control group in mathematics and reading/language arts.
- Texas: The Technology Immersion Program in four middle schools in Corpus Christi ISD has resulted in substantial increases in reading and writing scores by middle school students.
- Utah: The Utah e-MINTS program at Grades 4-6 resulted in significantly increased student gain scores in mathematics, literacy, and science in comparison to non-eMINTS schools.
- West Virginia: A three-year research study in West Virginia showed that the Technology Model School (TMS) program dramatically increased the use of technology by teachers and students in classrooms and that increase is associated with student achievement gains in Mathematics and Reading/Language Arts.

More specific findings from selected states are reported below.

Results from Empirical NCLB IID Studies

State	Results from Empirical NCLB IID Studies
NC	In 2003, eleven North Carolina schools were selected to implement the IMPACT Model through a competitive grant process. Enhancing Education Through Technology (NCLB IID) funds, allocated to state education agencies through No Child Left Behind, provided the funding for this project. At these eleven schools, funds were provided so that students have access to both current and appropriate technology in their classrooms. Professional development was provided for their teachers so that they could select the appropriate hardware and software for their students. They were assisted by both a school level technology facilitator and their media coordinator. Teachers collaborate in grade-level meetings to plan thematic units based on North Carolina's Standard Course of Study. A three-year evaluation of the NC IMPACT Model Schools Grants was recently completed. A summary of the results is provided below. The North Carolina State University/Friday Institute for Education Innovation reported the following findings after controlling for background demographics such as race, sex, grade, days absent, parent education, and free/reduced lunch status. In the area of mathematics, sample results indicated: • For Year 00 (baseline) to Year 02, when looking at change in passing status (going from passing to failing or failing to passing), the odds that IMPACT students would go from non-passing to passing status over the three years were 42% higher than that for comparison students • In Year 03, the odds of IMPACT students passing the Math EOG were 24% higher than that of comparison. This effect was stronger in earlier grades, and by 6th grade was nonexistent (for year 03 only). • In the area of reading, sample results indicated that, in general, IMPACT students had stronger growth curves, particularly in the lower and upper (3rd, 7th) grades than middle (5th). • When looking at change in passing status, the odds that IMPACT students would increase from failing to passing over the four years were 55% higher than the odds for comparison students. When looking at Year 01 to 03 with the larger sample, the odds were 43% higher for IMPACT students. Findings are also reported related to teacher retention, technology use, media center use, and leadership. For more detailed reports and assessment instruments, see: http://www.seirtec.org/_evaluation/inst/worksheets.html.
OR	The Mapleton Project was designed to provide teachers and students access to the technology tools to enhance writing instruction and improve student writing. Project-based learning components of the Intel Teach to the Future curriculum and teachers learning to integrate writing strategies with technology tools were the two specific areas of focus. Students in grades 7-9 were prompted to complete two writing samples in the same amount of time. One was produced using Microsoft Office Word and the other was handwritten. The range of number of words produced for handwritten samples was 97-471 words. The typed writing samples produced 161 words to 544 words. In 94% of the students participating there was an increased score in the Flesch Reading Ease (range of 38% to 99.2%) and Flesch Kincaid Levels (2.4 -10.1) of writing. More boys than girls had a wider discrepancy and gain when permitted to use technology over paper/pencil. Three male students actually increased three grade levels in performance.
PA	NCLB IID funds were used in the School District of Philadelphia to support the use of the Instructional Management System to collect benchmark data, display assessment data on all students from multiple sources, and provide this data to appropriate educators in the district at the desktop for purposes of data-driven decision making (D3M). A study was conducted to investigate the impact of this D3M on student learning within the context of school district reform that mandated a district-wide curriculum for mathematics, reading, and language arts, as it established six-week cycles of learning that included benchmark assessments in those content areas. The study used latent variable growth modeling to compare learning trajectories of select grades of students in schools where all staff had daily desktop access to student benchmarks administered every six weeks (treatment, 41 schools in Cohorts 1 & 2) to the learning trajectories of a matched set of students in schools where such data was directly accessible only to administrators and not to teachers (control, 12 schools in Cohorts 8 & 9). The effectiveness of the IMS-based intervention was gauged by student academic achievement, as measured by TerraNova scores in literacy, mathematics, and science. All schools were engaged in the district wide reform. Results showed significantly steeper learning trajectories over a three-year period in the treatment group in comparison to the control in mathematics, reading, and language arts, the areas of focus across the district, but not in science, an area not focused on in the reform until the last year of the study.

State	Results from Empirical NCLB IID Studies
TX	Corpus Christi ISD has four middle schools involved in the Technology Immersion Pilot Program. The work with the TIPC grant and professional development by Pearson Achievement Solutions has increased the level of technology integration in all areas of the campus. Many of the teachers have reached the "master" level of integration in the two years of professional development and are ready to model their strategies to other teachers. In a comparison of the last two years, Cullen MS and Baker MS, the two Technology immersed campuses, have shown a substantial increase in TAKS scores. For example, Cullen MS has shown increases from 90% to 95% in grade 6 Reading TAKS scores and from 77% to 82% in grade 7 reading TAKS scores. Baker MS has shown an increase from 88% to 93% in grade 8 reading TAKS scores and 70% to 81% in 8th grade writing TAKS scores. In the third project year (2006-07), data from three student cohorts show that after controlling for student characteristics and school poverty, Technology Immersion had a statistically significant effect on TAKS mathematics achievement, particular for economically advantaged and higher achieving students. Economically advantaged students in Cohort 1 increased their mathematics achievement at a significantly faster rate (about 0.40 TAKS *T*-score point per year) compared to disadvantaged immersion students (0.02 *T*-score point) and both advantaged and disadvantaged control students (-0.18 and -0.16 *T*-score points, respectively). For Cohort 2, economically advantaged and disadvantaged immersion students had TAKS mathematics growth rates (0.26 and 0.30 *T*-score points per year, respectively) that significantly outpaced their control-group counterparts (-0.44 and -0.40 *T*-score points). Immersion also had a significantly positive effect on the TAKS mathematics scores of higher achieving Cohort 3 students. An analysis of the relationship between the level of implementation and student achievement revealed that, across three cohorts, students who had greater access to laptops and used laptops for learning to a greater extent, especially outside of school, had significantly higher TAKS reading and mathematics scores. The other two Corpus middle schools in the control group will be planning for immersion in year 3 and implementation in year 4 of the program.
UT	The eMINTS-4-Utah is based on the national eMINTS program. Utah's eMINTS classrooms outperform non-eMINTS classrooms in the same schools on the state end-of-level tests. eMINTS-4-Utah is comprehensive, intensive professional development with extensive follow-up. Classroom coaching by eMINTS-trained instructional specialists helps participating teachers transition from the traditional teacher role of classroom expert to the role of student-learning facilitator. Participating teachers love eMINTS and the learning community it builds around professional practice. Results indicate increased gain scores over non-eMINTS classrooms (i.e., Percent Proficient on End-of-Level State Tests in High-need Schools in language arts: 63.8% versus 51.8%; in math: 60.4% versus 48.7%; and in science, 46.6% versus 36.9%). See: http://eMINTS.myedesk.org/.
WV	The West Virginia Technology Model School (TMS) program is designed to provide support and professional development so that all teachers and administrators will be proficient in the implementation, use, and integration of technology into the curriculum. Each TMS hires a technology integration specialist (TIS) who receives 40 days of state-sponsored professional development focusing on 21st century learning. The specialists model, coach, team-teach, and mentor practicing classroom teachers on effective strategies so that they may be able to use technology and 21st century tools with their students. A three-year research study was recently completed by Interactive Inc. In addition to gains in Mathematics and Reading/Language Arts, the data also showed that: • TMS students used computers twice as much as students without the program's support and they used them significantly more for Reading/Language Arts. • TMS teachers consistently used their computers for 22% of the day during the two years, while teachers' use of computers in the control group schools plummeted from 9% of the school day to 1% of the school day over the same period. • Technology use increased due to the training provided by the TISs. The data indicate that: (1) any version of the TIS service was preferable to none; (2) two years of help was better than one; and (3) the TISs changed their services to become more effective in the second year than in the first. The Technology Model Schools program has helped teachers and students in West Virginia become more successful. For more information, please visit the evaluation website at http://wvde.state.wv.us/evaluation.

States are funding multi-year programs through NCLB IID funding that are showing promise as evidenced by results from experimental or quasi-experimental design studies. In many cases the state has identified funding for the research outside of the NCLB IID program, but is requiring that LEAs

participate in the research as a condition of the funding. In other situations, LEAs are conducting such research as a component of the NCLB IID grant award.

Trend 3: Academics Continue to Be Top Priority for NCLB IID

Throughout the history of the NCLB IID program the LEA competitive grants have strongly emphasized student outcomes in mathematics and literacy. In Round 5 grantees increased the emphasis on mathematics, continued the emphasis on literacy, and added a strong emphasis in science.

Academic priorities in the NCLB IID competitive grants nationally focused on literacy and the sciences, with 65% of states identifying mathematics as a priority, 46% on reading, 38% on science and 38% on writing. The emphases on mathematics and literacy align with the formulas for determining adequate yearly progress (AYP). The focus on science is due, in part, to the mandate by NCLB that requires all states to begin administrating science assessments to students in 2008.

Table 2. Percentage of States Reporting Academic Emphases

	Round 4	*Round 5*
Reading	45%	46%
Writing	39%	38%
Mathematics	45%	65%
Science	28%	38%

Listed below are examples of the school district programs funded through NCLB IID. The examples are grouped by academic area and are representative of Round 5 projects.

Mathematics

State	Mathematics
AL	Shelby County School System implemented the NCLB IID Competitive Grant Project involving Montevallo Elementary School and Thompson Intermediate Schools during the 2006-2007 school year. One of the schools has a fast-growing ESL population and the other is a smaller rural school with a high-need population. Data suggested that teachers were less likely to incorporate technology into math lessons than social studies, reading, or writing. The goal of the grant was to assist teachers in making math more meaningful to students through the use of technology. Four math teachers in 4th and 5th grades received interactive whiteboards, new classroom computers, digital cameras, a teacher laptop, and educational software. They also had access to distance learning equipment. Each teacher then developed an interactive project focused on one or more math content standards. The resultant test scores from the spring of 2007 showed that both schools increased proficiency at the 4th and 5th grade levels in Total Math, Problem Solving, and Math Procedures. This grant helped them achieve Adequate Yearly Progress, with one school coming out of School Improvement (i.e., failure to meet AYP over time period).
ID	The Idaho School for the Deaf and the Blind purchased talking global positioning systems to use in the classroom to build spatial concepts through real-life application experiences. Such experiences helped blind and visually impaired students coordinate plane and geometric problems, which resulted in increased achievement in mathematics.
NJ	The Math Achievement To Realize Individual eXcellence (MATRIX) grant program (2004-2007) is designed to increase student achievement in mathematics in grades 6 through 8 by providing classroom teachers with ongoing professional development and in-class support that focuses on integrating technology into the curriculum and instruction. Grantees were required to have a minimum of two (2) 6th-grade teachers, two (2) 7th-grade teachers, and two (2) 8th-grade teachers learn strategies to infuse technology into the curriculum. The program is based on relevant research proving success with mathematics where students use technology as a tool during their regular instructional time. The final year (2006-2007) provided for replication of the project within another LEA that was brought in to the grant program. Final evaluation results are not yet available, but in one district, Wharton Borough Public Schools, the percentage of students scoring in the GEPA Mathematics (state standardized test) proficient ranges increased to the highest percentage in the district's history (69.8%).

The type of technology intervention is shifting from emphases in past years on specific software or specific tools, to increased emphasis on the informed use of technology equipment, learning approaches, and software by teachers who have been prepared for effective uses of educational technology, in combination with sound pedagogical approaches in mathematics, literacy, science, social studies, the visual or performing arts, health/physical education, etc.

Language Arts

State	Language Arts
CA	The Student Writing Enhanced by Education Technology (SWEET) program was implemented at Pajaro Valley Unified School District's middle school. It was designed to boost achievement in writing skills and performance on state content standards by improving student access to technology; increase teacher use of technology in the classroom to support student achievement; and improve home-to-school communication through a comprehensive technology-driven language arts project. Twenty-six hundred middle school students and 45 classroom teachers were involved in Project SWEET. The program's success has been evident in several areas at the completion of its first year of operation. The most dramatic of these is a 22% increase in one year in student writing application scores for the California Standards Test. This surpassed statewide growth of 19%.
CT	In Derby Schools, Connecticut, teachers noted that a clear change in students' achievement and perception of writing occurs when students enter middle school. Students' Connecticut Mastery Test (CMT) scores express vividly what our teachers acknowledge: Students who can achieve at high levels on the writing test simply do not produce quality writing in middle school as consistently as they did in elementary grades. The percentage of students proficient in writing in grade 5 (88.8%) drops dramatically in grade seven (62.9%) and grade 8 (78.1 %). Derby's staff has expressed its concern to build on students' ability and interest as they enter middle school. This grant will address this serious issue. Students are assigned to teams at Derby Middle school; there is one team per grade level. Each team has one language arts teacher, one social studies teacher and a special education teacher. A total of six classroom teachers participate in this project, plus the media center specialist. The grant will also provide specific professional development time for these teachers, and will assist them in developing a repertoire of teaching strategies that support the adolescent writer. Support for professional development will be ongoing. As we plan our district processional development days, we will incorporate additional training in the writing process for all of our K-8 teachers, but in particular for our middle school teachers
NE	The Tales of the West Digital Storytelling grant provided a technology environment in which students created their own digital stories using video, writing, digital photography, graphics, music and sound to express their interpretations and share factual information about a historical event or social science concept relevant to existing curriculum. Tales of the West Digital Storytelling focused on the infusion of multimedia technology into social science curriculum and the creation of video and interactive web applications connected to Nebraska Social Studies Curricula. Each teacher team will plan and implement a cross-curricular, student-created project that focuses on social science concepts delivered through video, which utilizes the digital storytelling format. Ethical computer use will also be taught through lessons on copyright laws and digital citizenship resources. Students will use higher order thinking skills and technology tools to place meaning within a social science concept. Through researching, storyboarding, writing, narrating, filming, and scoring music, students will ultimately teach the social science concept to their viewing audience through their created videos. Creation of digital storytelling videos will create constructivist, project-based learning and authentic assessments. Created projects will be published on the internet to be shared with parents, school district stakeholders and a wider world audience.

Science

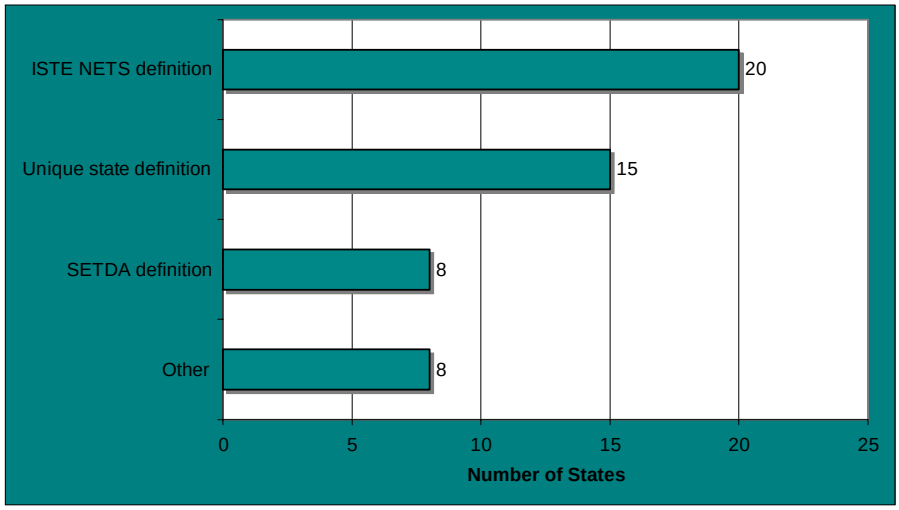
State	Science
AK	Juneau Geo Treks Project: The focus is the integration of technology into the curriculum and daily instruction of middle school classrooms in the Juneau School District. Classroom projects incorporate Global Information System (GIS) and Global Positioning System (GPS) technologies to meet standards in geography, science, and technology. Through an alliance with the University of Alaska Southeast's Geo Sciences Department, teachers extended their knowledge of the Global Information and Positioning System technologies. Teachers were provided with the opportunity to engage expertise from community agencies to bring real time projects into their classrooms. Partnerships were cultivated with the Alaska Department of Fish and Game, Discovery Southeast, and the U.S. Forest Service through the use of this grant. In one successful project, students interacted with data to understand the movement and feeding patterns of the neighborhood bears. Through best practices in staff development, teachers gained the competencies necessary to sustain this project for future cohorts of students.
FL	The Florida Department of Education funded 11 districts to implement ubiquitous computing through Title II-D funds. A primary goal of the *Leveraging Laptops* initiative was to change teaching practices through laptop technology and intensive professional development. A coordinated research and evaluation effort was undertaken to document and disseminate findings and technology integration practices associated with the initiative. Teacher participation in digital learning institutes and organized action research activities were standard project design components. Classroom observations were conducted using nationally recognized and research-validated instruments. Data obtained through the formal observation process has been compiled and research results are being presented at state and national conferences. Significant project design autonomy and flexibility were key aspects of the *Leveraging Laptops* initiative and enabled participating districts to meet local technology resource needs in addition to supporting formal research and evaluation activities. Seminole County Schools fostered the development of innovative partnerships at each target school to encourage unique, exciting, and student-centered learning activities. For example, at Sanford Middle School, educators partnered with the Central Florida Zoo to develop digital science stories. At South Seminole Middle School, a partnership was formed involving the University of Central Florida, Valencia Community College, St. Johns Water Management, and the Seminole County Planning Department to build an outdoor classroom. These creative partnerships allowed students in 6th grade to explore ocean floor modeling with motion sensors, while 8th grade students in physical science developed web-quests and presentations. An outcome of this program was reforming teacher technology integration practices in science classrooms. Specific information concerning Florida's *Leveraging Laptops* initiative can be found at the following web URL: http://etc.usf.edu/laptops4learning/.
WV	Greenbrier County Schools, in Greenbrier, West Virginia, in partnership with Marshall University, is working with the middle school teachers at Eastern and Western Greenbrier Middle Schools to create a Learning Community that empowers teachers to integrate technology into math, science, social studies and English lessons and put tools in their students' hands. A Technology Integration Specialist at each middle school, with support from our partners in Marshall's Department of Integrated Science and Technology, guides and supports teachers as they teach our students to use technology tools productively and with educational purpose in a 21st Century Learning Community. The Technology Integration Specialist and our Marshall University partners meet with teachers at each of the middle schools to brainstorm ideas, develop training schedules and begin inquiry-based learning training to assist teachers in developing lesson plans. Geographic Information Systems (GIS) technology is a common link among social studies, mathematics, science and English courses. This technology enables students to digitally map their own experiences with the land relative to the Appalachian landscape, its waters, its structure, and its history and expand their geospatial understanding of their place in the world with the place of others. Science and math teachers will work with Global Positioning System (GPS) units, Google Earth and spreadsheets to study the karst cave systems, wetlands, coal mining, and water quality samples. Social studies teachers will use GIS and GPS units to map local landmarks and study their historical and current social significance and present their findings in a Social Studies Multimedia Fair. English teachers will work with students to present information about the 21st Century learning that is in place in their schools. They will create and report their findings in digital presentations, web pages, and newsletters for the community.

Trend 4: Integration Is Critical to Developing Technology Literacy

States see the value of teaching technical courses, but see real gains in achievement by integrating technology into core curricular areas.

States are building technology literacy among students in a variety of ways. In some cases, LEAs are requiring students to take educational technology courses, but the growing trend is technology integration, where students learn about technology by using it on a daily basis across all curricular areas.

Figure 3. Number of States Using Various Approaches to Developing Technology Literacy



Source: SETDA Fall 2007 Survey (N=51).

Because technology literacy is not defined in law, each state has found it necessary to establish its own definition. According to the state technology directors: 20 states used a definition established by the International Society for Technology in Education (ISTE), 15 have established their own definition, and 8 use the SETDA definition. The ISTE definition of technology literacy includes proficiencies outlined across six categories: basic operations and concepts; social ethical, and human issues of technology use, productivity tools; communication tools; research tools; and problem-solving and decision-making tools.

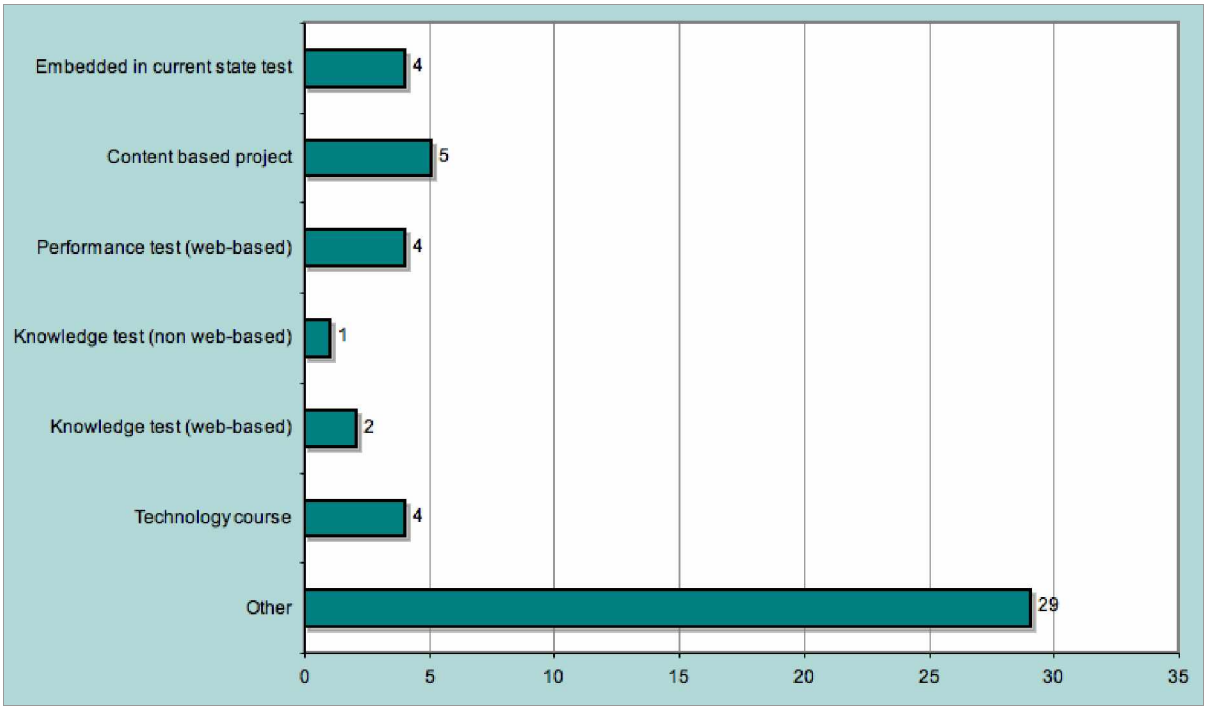
The following table provides three examples of how states are leveraging NCLB IID funds to build technology literacy among students. As noted above, many states are focusing on immersion rather than specific courses.

Approaches and Implementation of Technology Literacy

State	Approaches and Implementation of Technology Literacy
AR	Jonesboro School District's SMILE (Students Mastering ISTE Learning Expectations) Grant, funded through NCLB IID, provided hardware and on-going technology training to assist 24 middle-level, core content area teachers in using available electronic resources. Goals were to: assist middle-level students in meeting the NCLB standard of being able to demonstrate technology literacy by the end of the 8th grade; improve performance on state assessments; and use instructional software and applications programs effectively and efficiently. The grant was grounded in the belief that to achieve effective technology and curriculum integration, teachers need daily access to classroom presentation technology, electronic resources aligned with the curriculum, and training. Preliminary evaluations indicate that project goals were met. Students in all core subject classrooms in grades 6-8, who had classroom technology available in addition to lab access, completed at least two technology projects during 2006-07 to begin their on-going electronic portfolio. Science students, whose teachers indicated the heaviest use of the technology among those grant participants, evidenced higher scores on the Spring 2007 ITBS than in other subjects in which the teachers used the technology to a lesser extent. Students in grades 6-8 also produced 6-9% gains in math performance on the Arkansas Benchmark Assessment in 2007.
MD	The Maryland Student Technology Literacy Consortium is a continuing partnership comprised of all 24 local school systems focused on ensuring that all students are technologically literate by the end of 8th grade, a requirement of No Child Left Behind. The consortium, in collaboration with the Maryland State Department of Education, determined a statewide definition of technology literacy; developed student technology literacy standards in clear and measurable terms; developed a plan for teaching technology literacy skills; and is currently working on a tool and/or process for measuring student technology use and literacy. While these standards focus on PreK-8, the consortium is currently working to address technology literacy in grades 9-12.
NH	New Hampshire established new school approval standards related to Information and Communication Technology (ICT) Literacy. These standards require that schools assess ICT competency of all eighth grade students using a digital portfolio approach. Since the standards took effect in July 2005, the state has been assisting schools to implement changes that will support the use of digital portfolios for both instruction and assessment purposes through Title IID funding.
TX	The Technology Immersion Pilot is in its 3rd year in Floydada Junior High, Floydada, TX. Under the continuation of this pilot, Floydada has been able to continue immersion activities at the middle school. The teachers are now collaborating with each other and completing cross-curricular units that use the available technology as the main medium for creating and completing the assignments associated with the lessons. The technology tools they use now have become commonplace tools. They are continuing to grow and find new and innovative ways to create technology rich lessons working toward full immersion. They have become teacher leaders in the district. Successes in student performance steadily move in a positive direction in large part due to what the grant has afforded. Because of the positive results Floydada saw with the first year of the program, they chose to move forward with immersing their high school using local bond funds in year 2. The results of implementing and using the new tools provided by the TIP project have been so positive that this year, they are working with the city on a WI-FI project to bring wireless access to their whole community.
WY	The primary goal of the Teton CSD #1 - Region V Board of Cooperative Services partnership grant is to improve student achievement and technology literacy through the use of interactive "Smart Classrooms." Utilization of Smart Classrooms included a touch-sensitive whiteboard, computer with Internet service, and data projector. The goal was to improve learning efficiency, as well as address the unique learning styles of the "digital native" learners. Teachers immersed in a Smart Classroom atmosphere will have the opportunity to design better educational experiences for students and advance their own instructional technology practices. One Smart Classroom will be placed in each grade level in an English Language Learners classroom.

While all states are focusing on building technology literacy among students, multiple approaches are used to meet the federal NCLB IID requirement for assessing 8th grade technology. Some states use a blended model that incorporates two or more of the categories above. Some states delegate that responsibility to LEAs; others have identified or established state assessments on the topic, some of which are mandatory, while others are optional.

Figure 4. Number of States That Use Specific Assessment Strategies for 8th Grade Technology Literacy.



Source: SETDA Fall 2007 Survey (N=49; 2 no response).

The large number of states that indicated "other" on the survey represent the current flux in states' approaches to assessing 8th grade technology literacy. The comments fell into two basic categories: those states that are leaving the assessment to the discretion of the LEA and simply tracking trends, and those that are in the process of establishing statewide assessment processes, some mandatory, some discretionary. A variety of approaches are represented in the following table.

Approaches to the Assessment of 8th Grade Technology Literacy

State	Approaches to the Assessment of 8th Grade Technology Literacy
GA	The Technology Services DOE Division through the Georgia Virtual School resources is currently creating an optional assessment tool for use in Georgia schools. The assessment will be web-based and available to systems in late 2007.
MN	We are now required by law to embed information and technology literacy skills within our academic content standards. This will impact assessment in future years.
MO	Districts use a variety of methods with content-based projects being the most prevalent. The next most widely used method is a middle school technology exploratory course.

State	Approaches to the Assessment of 8th Grade Technology Literacy
ND	Information collected from school districts indicates that they either use an 8th grade course or have fully integrated technology into the curriculum in all areas.
SD	Both embedded in other content area and newly piloted stand alone test based on new ed tech standards
WA	State provides free optional Student Technology Literacy Self-Assessment Tool at http://www.edtech.wednet.edu/pilotjr/

Examples from several states' use of their 8th grade technology literacy assessment follow:

Results from Technology Literacy Assessment

State	Results from Technology Literacy Assessment
AZ	Arizona has established a statewide Student Technology Literacy Assessment. During the 2006-07 academic school year more than 22,000 5th and 8th-grade students in Arizona were assessed at the beginning of the fall semester and again near the end of the spring semester to determine their skills and knowledge in the area of technology literacy. The 5th- and 8th-grade students were administered grade specific technology literacy assessments—the TechLiteracy Assessment by Learning.com. The assessments were comprised of subcategories in the areas of: 1) system fundamentals, 2) social and ethical issues, 3) word processing, 4) spreadsheets, 5) multimedia presentation, 6) telecommunication, and 7) databases. Because of the small sample set of items per each subcategory (often fewer than five), this report focuses on the overall results of the assessment. Both 5th- and 8th-grade students made modest yet significant gains from early fall to late spring. The assessments for both 5th- and 8th grade students were gauged on a normalized scale ranging from 100 to 300 points. Proficiency in technology literacy was a score at or above 220. The 5th-grade group (N = 8154) moved from 20.6% of the students being proficient on the pre-assessment to 37.7% proficient on the post-assessment. Similarly, the 8th-grade group (N = 6817) began with 30.7% of students at proficiency level and ended with 54.1% of the students attaining proficiency. Students enrolled in districts where funds were received through both competitive and formula-based allotment were considered as being enrolled in a competitive-based district. Students in competitive-based and formula-based districts made comparable composite gains, but it is noted that the students in the competitive grant districts began at an overall lower level of proficiency. Among the competitive-based districts, proficiency levels increased by nearly two-fold among 5th-grade students (92%) and the 8th-grade group experienced an 86% increase in proficiency level.
CO	Each district is responsible for assessing technology literacy using a state approved assessment method. Those methods are: program based, paper pencil, performance based, portfolio, projects, and an online assessment program.
HI	The Department has implemented Computer Literacy Certification (CLC). All 8th grade students have the opportunity to demonstrate their computer literacy skills and knowledge in the use of the Internet and Internet tools as well as basic productivity tools such as word processing, spreadsheets, presentations and common program functions. Students then have the opportunity to earn two Achievement Credentials, which are recognized internationally as the basic computer skills and knowledge needed to be successful in a global society. The Department has worked with key school-level technology coordinators to develop a draft scope and sequence of technology skills for grades K-8. The scope and sequence defines the technology skills and applications that are essential for 21st century learning.

Trend 5: State Policies Scale Effective Practices

States are increasingly offering LEAs opportunities to adopt fully developed programs that have been shown to work, when implemented with fidelity.

Since the inception of the NCLB IID program, states have become more prescriptive in the competitive grant offerings provided to LEAs. Not only are states including priorities such as mathematics achievement technology literacy, they are, in some cases scaling proven practices. Many are finding that this comprehensive approach gets better results because it ensures, to some extent, the fidelity of the implementation. Typically, it establishes common outcomes, and dictates the type of technology equipment, software, professional development, lesson designs, and implementation schedules required to achieve the goals. Often the professional development is provided to a cohort of grantees, establishing a professional community of practice as teachers from different schools implement the program. While the degree of specificity varies, the approach allows a state to identify an effective practice and bring it to scale in schools across the state.

The scaling up of the many effective models and practices involves:

- Highly successful instructional models such as IMPACT in North Carolina, TECH-IL in Illinois, the Instructional Technology Resource Teacher Program in Virginia, and the eMINTS (enhancing Missouri's Instructional Networked Teaching Strategies) program in Missouri. The most prolific of those is the eMINTS program, which originated in Missouri and is currently being implemented in a number of schools in ten states (Alabama, Arkansas, Illinois, Maine, Minnesota, Missouri, Nevada, Oklahoma, Texas, and Utah). eMINTS blends state-of-the-art technology; instructional strategies focused on inquiry-based teaching, higher order thinking skills, and cooperative learning; and professional development for teachers so that classroom environments may foster a new way of educating students.
- One-to-one computing that provides ubiquitous access to students. The models are numerous. In some schools, the laptops are checked out to students 24/7, in others students have classroom access to desktops, in some classrooms sets of laptops or other technologies are available for school use only.
- Dissemination of practices deemed to be effective.

Examples of such models currently being scaled are included in the following tables. The first table includes highly successful instructional models, the second focuses on one-to-one computing models, and the third describes how states are disseminating best practices and research-based practices.

Scaling Successful Technology-based Instructional Practices: eMINTS

State	Scaling Successful Technology-based Instructional Practices: eMINTS
AL	The NCLB IID grant to Baldwin County Instructional Technology Unit was based on the eMINTS Program. It was designed to improve student academic achievement by continuing to provide on-going, specialized train-the-trainer professional development to school mentors, who will train their schools' teachers in integrating diverse technology resources into the curriculum. The district eMINTS Team guided the collaborative efforts of the Curriculum Department and the Instructional Technology Department to use the eMINTS PD4ETS program. The goal was to re-write curriculum guides with lesson plans and activities supported by training provided through the eMINTS PD4ETS professional development module. Through district-led focus groups, teachers reported that they want to use technology and have some of the requisite skills, but they just don't know how to make it happen in a classroom. In response, the curriculum guides include specific lessons from the eMINTS professional development modules, eMINTS eThemes, and the Alabama Department of Education's ALEX(Alabama Learning Exchange). Professional development through the eMINTS PD4ETS program trains teachers to teach the specific lessons in the curriculum guides. The expectation is that learned skills will be transferred to other technology-infused lessons as the teachers' skills increase. The district is collaborating with eMINTS to examine methods to successfully deliver their training beyond the current method of face-to-face.
ME	In Maine, the Title IID competitive grant supports our Learning Technology Initiative (MLTI) by providing teachers eMINTS training developed by the University of Missouri. Nine regional trainer/mentors were trained by Maine and Missouri program staff. The trainer/mentors worked with 60 teacher/leaders in 56 eligible school administrative units (SAUs) to provide the "Comprehensive" 220-hour program. Thirty-six have become certified eMINTS teachers. The first year, subgrants also provided stipends for teachers and substitutes, as well as hardware for each classroom including: a SmartBoard, laptop, digital camera, scanner and printer. With the reduction of EETT funds, the state was unable to provide additional subgrants. As a result, only 6 teachers entered a second "Comprehensive" cohort beginning in Year 2. The regional trainer/mentors also provided "eMINTS4All" training, of approximately 80 hours, and "Custom" training for over 250 teachers. The teachers learned many strategies for integrating technology into their classrooms using the inquiry method of instruction, Web Quests, and other instructional tools. Teacher/leaders have become strong resources for their schools and SAUs and provide daily support to colleagues in their buildings and sometimes offer workshops. Evaluations have shown very positive results from trainer/mentors, teacher/leaders and other training participants. Student performance, unfortunately, is difficult to measure as the program supports individual classrooms and the data is taken from a limited student population. Maine would like to continue this high level of intense training but is forced by the reduction in funding in EETT to scale back our goals and offer a less intense version of this technology leadership program.
MO	The eMINTS National Center, a non-profit educational unit at the University of Missouri, offers professional development programs created by educators for educators. eMINTS changes how teachers teach and students learn through an instructional plan that provides research-based approaches to organizing instruction that can be implemented in virtually any subject at any level. eMINTS enables educators to: create classrooms where all students are motivated to succeed; fully incorporate technology investments into teaching and learning; complement existing preK-16 curriculum with critical-thinking requirements found in national, state and local curriculum standards; and build enthusiasm and creativity into daily teaching. The goal of eMINTS is to change the face of education by combining best teaching practices with technology to achieve improved outcomes for all learners. eMINTS programs support educators with professional development, which prepares learners to be intrepid explorers, active team members, independent thinkers, problem solvers, effective communicators, and creators of knowledge. eMINTS program evaluation research results in Missouri are based on five years of data analysis on the Missouri Assessment Program (MAP) tests in communication arts (grade 3) and mathematics (grade 4). Comparisons between the test scores of students enrolled in eMINTS classrooms and students who are not enrolled in eMINTS classrooms in the same schools consistently show that eMINTS students outperform their non-eMINTS peers.

Scaling Successful Technology-based Instructional Practices: General

State	Scaling Successful Technology-based Instructional Practices: General
MN	Lakes Country Service Cooperative. Working with over 1800 K-5th grade students, the project focuses on improving language, reading, and learning skills across all content areas. The project provides teachers and administrators with opportunities to receive training on brain research and how the brain operates in the learning process. In addition, training is provided to teachers on how to use Fast ForWord, evaluate and use student data from the Progress Tracker and other assessments, and participate in networking meetings.
NC	In 2003, 11 North Carolina schools were selected to implement the IMPACT Model through a competitive grant process. Enhancing Education Through Technology funds, allocated to state education agencies through No Child Left Behind (NCLB IID), provided the funding for this project. At these 11 schools, funds were provided so that students had access to current and appropriate technology in their classrooms. Professional development was provided for their teachers so that they could select the appropriate hardware and software for their students. They were assisted by both a school level technology facilitator and their media coordinator. Teachers collaborated in grade-level meetings to plan thematic units based on North Carolina's Standard Course of Study. After controlling for multiple factors, evaluative results found stronger growth curves in mathematics for IMPACT students than non-IMPACT students, particularly in lower (3rd) and upper (7th), rather than in middle grades. The program also had positive impacts on teacher retention, particularly for beginning teachers. IMPACT teachers perceived that their schools were more supportive of risk-taking, and had more linkages to the community than did comparison schools.
OR	Technology Integrated into Learning and Teaching (TILT) Project. Eugene School District, in partnership with the University of Oregon, will offer professional development focused on the integration of technology into K-8 reading and writing instruction. By focusing on the ELA core content area, the TILT Project will have an impact on both basic skills and literacy-based content learning. The TILT Project has four goals: (1) improve student academic achievement in reading and writing; (2) increase teacher and student access to technologies that support and enhance reading and writing instruction; (3) improve teacher knowledge and skill related to integrating technology into the teaching and learning of reading and writing across the curriculum; and (4) increase teacher and student knowledge in the digital "illiteracies" of reading, writing and studying in electronic environments. The TILT Project will strive to improve student achievement as measured by at least 5% increase in the number of students meeting or exceeding the standards on state assessments.
VA	Virginia's Instructional Technology Resource Teacher Program. The NCLB IID program has increased the number of instructional personnel integrating technology into instruction and raised awareness among school administrators regarding the value technology adds to the instructional process. Virginia public school divisions employ instructional technology resource teachers at a ratio of 1 teacher per 1,000 students. These instructional technology resource teachers work directly with instructional personnel who have received NCLB IID-funded training on integrating technology into instruction. In 2006 the Virginia Department of Education commissioned a study that examined the relationship between the instructional technology resource teacher program and levels of technology practiced in schools, impact of the instructional technology resource teacher program on classrooms and teachers, and impact of the instructional technology resource teacher program on students. The results indicate major improvements occurred in 32 % of the subject areas tested by the Standards of Learning tests, most dramatically in English reading. With NCLB IID funds, professional development of instructional technology resource teachers will continue.

Scaling Successful One-to-One Computing Practices

"*Imagine a class filled with engaged learners, all with their own laptop, exploring, researching, synthesizing, and creating authentic products that reflect their understanding of the world around them.*"

— Georgia

State	Scaling Successful One-to-One Computing Practices
GA	Title IID competitive grant funds in FY06 provided a Wireless 1:1 Environment to 50 middle and high school classrooms across Georgia. The grant funds provided the wireless infrastructure for the classroom and a set of student laptops on a mobile cart
IN	The Indiana inACCESS program has allowed more than 100,000 high school students access to low cost Linux workstations in their high school language arts classrooms everyday. This creates a 1:1 computing environment that is affordable, repeatable, and sustainable. Through the use of Moodle, teachers can post differentiated assignments and students have 24/7 access to learning. "Through its adoption of Open Systems and willingness to align with key industry leaders, IDOE has developed a cost-effective blueprint, which we believe can become a standard for success for 1:1 Computing, both in the US and abroad." —Mark Rogers, Director, North America Business Development, Channel Software Operations, Intel Corporation.
MA	The One-to-One MY Access project, in Taunton Public Schools, provides instructional strategies for improving the English/Language Arts/Writing skills and technological literacy in middle school age children. This project uses One-to-One computing, via wireless laptops, and the MY Access process writing software. There were three main goals in this project. The first was the improvement of 7th grade student writing, using one-to-one computing. The second was the provision of technology access to middle school students, which would improve their technology proficiency. The final goal was the provision of professional development opportunities and the sharing of best practices by teachers using MassOne. At the end of year one, this project is on track with the acquisition of hardware and software required for the implementation of the goals. The project has also provided appropriate professional development sessions to all the 7th grade teachers in the Martin middle school. Professional development workshops were scheduled for fall 2007 for the 8th grade teachers as well as the 7th grade teachers that participated in Year 1.
ME	Auburn Maine - High School Laptop Program. The district is working toward one-to-one computing at the high school level. Using Title IID and local funds, the district has increased its ratio to 8 computers for every 10 students. With the increased access, technology is integrated into all subjects. Special emphasis has been placed on improving reading and mathematics with training efforts to assist teachers' use of these tools. The results show an increase from 34% to 43% in reading for students who met or exceeded the standard. In mathematics, the percentage increased from 15% to 44% of students who met or exceeded standards on our high-stakes MEA exam.
MI	Michigan's Freedom to Learn (FTL), one-to-one teaching and learning program, has garnered the following results toward its goals: There is clear evidence that FTL students have developed key skills, knowledge and tools needed for the 21st Century workforce. There is clear evidence of instances where FTL students are achieving at higher rates than non-FTL students using MEAP as a measure. On student problem-solving tasks, FTL students exhibited the highest ability in demonstrating understanding of the problem and identifying what needed to be known to solve the problem. On student technology tasks FTL students showed significant advantages overall with regard to completing the presentation and internet tasks. The most impressive aspect of the FTL findings was the high level of proficiency at which Michigan students, at all socioeconomic levels, were using state of the art technology to solve meaningful and authentic learning tasks that are essential for today's workforce and economic development. These Michigan students are being very well prepared with the skills, information and tools demanded by today's workforce.

State	Scaling Successful One-to-One Computing Practices
ND	Kulm High School has implemented handheld computers and software. This allows teachers to interact with every student in the room at the same time, by creating a "chat room" like environment within the actual classroom. This has encouraged higher levels of participation and truly engaged the students. Even students who are usually quiet in the classroom participate in the discussion because they are able to anonymously type their answers to questions, which teachers pose to the group. Teachers are also able to push out assignments and collect assignments electronically. The administration reports that discipline is better; grades are higher (fewer deficiencies were issued); and students are retaining what is taught, according to the scores on the state assessment and online assessments that are conducted twice during the year. Since receiving a competitive grant from the Title II Part D program, this school was named a No Child Left Behind - Blue Ribbon School as a result of the strides they have made in the area of increasing student achievement.

Dissemination Research and Best Practices

State	Disseminating Research and Best Practices
DC	The state requires quarterly reporting on the use of Title IID funds. Sub-recipients are required to report on programmatic challenges and successes experienced with implementation. Additionally, on-site monitoring occurs to review the implementation of the technology plan by faculty and staff. As part of future processes, state surveys administered to students, parents, teachers and staff members are being considered. The state sponsors an annual Best Practices Conference, which includes a workshop on promising practices in technology use.

Trend 6: Progress Through Leadership and Professional Development

With funds severely cut from previous years, states see effective professional development models and leadership as the key to advancement of the NCLB IID program goals.

The NCLB IID federal program requires that a minimum of 25% of the formula and competitive grants be allocated to professional development. Limited funds have caused states to re-think the priorities for NCLB IID grants. The answer for many is to provide a wide range of high-quality professional development experiences to PreK-12 educators.

> *"Given the life styles and work culture of our teachers, any successful professional development program must include a variety of delivery methods: face-to-face, online (anytime, anywhere), IVC, or blended models."*
>
> — *North Carolina*

Professional development that supports NCLB IID projects is highly diversified. To ensure high quality experiences for teachers, many states are turning to a number of constructs for professional development:

- Virtual learning
- Just-in-time training
- Coaching and mentoring
- Professional learning communities
- Hybrid models

Additionally, states are finding that the topics for professional development also represented a diversified range:

- Intensive professional development in middle school mathematics
- Web 2.0 applications across the curriculum
- Modeling and designing web-based courses
- Use of public television
- Increasing motivation in the study of mathematics and science
- Digital story telling
- Web-based research

The percentage of states that provided NCLB IID applicants with guidance or guidelines in professional development steadily increased over the first three years of the NCLB IID grant program, and then declined slightly by Round 5 (FY06). Those slight decreases coincide with decreased overall funding levels, which, of course, decrease the administrative funds the states have available to manage and guide the programs.

As the amount of NCLB IID funding decreased, the states increasingly reported the use of consortia and local eligible partnerships to extend the depth and breadth of professional development offerings. Other strategies NCLB IID grantees are using include: the development and/or offering of online courses, just-in-time training, and videoconferencing; intensive professional development experiences over time, which are specifically targeted at cohorts of teachers who are adopting specific classroom models; and the

inclusion of technology-based strategies in what were typically non-technology professional development programs (e.g., differentiation of instruction).

The use of coaches, mentors, and the development of local experts to provide in-depth, continuous professional development in educational technology for teachers were less frequently reported in Round 5 than in Round 4. States report that the LEAs continued to use NCLB IID funding to form professional learning communities, some in face-to-face situations, and others via online interactions, offering teachers, coaches, and mentors the opportunity to exchange ideas, offer suggestions, and share research-based practices.

In addition, Round 5 survey respondents cited a range of topics through which technology was integrated into professional development, including: technology literacy; data-driven decision making; assessment for learning; integration into specific core academic areas; and, technology-specific sessions. This round of grants increased the focus on stages of teacher development, recognizing the value of longitudinal programs that incrementally increased teachers' proficiency with effective uses of technology for learning.

Examples of professional development programs

Listed below are examples of state programs for teachers' professional development. The examples are grouped by type of professional development, including: consortia, coaching and mentoring, learning community, online/virtual, and administrative leadership.

Professional Development (Consortia)

State	Professional Development (Consortia)
DE	The focus of the Delaware Recommended Curriculum Competitive grant is high-quality professional development for classroom technology integration aligning revised standards to backward unit design. Consortia were formed in order to promote collaboration among districts for teaching initiatives and student learning outcomes with technology impacting standards based instruction.
WI	Seven south-central Wisconsin rural school districts, including the Wisconsin School for the Deaf, formed a school improvement consortium: Integrating State Standards, Achievement, and Curriculum (ISSAC). ISSAC was formed in 2003 with the purpose of improving professional practices, and increasing student achievement in reading, writing, and math, through the integration of educational technology in the classroom. For FY2006 the ISSAC Consortium implemented a well-planned, ongoing, systemic, NCLB IID professional development, train-the-trainer model to improve classroom practice and student work. The program linked the schools' standards-based reading and math curriculum to best practices in using instructional technology. This was done by implementing the INTEL Teach to the Future and Leadership Forum professional development programs. Through a series of five professional learning experiences, NCLB IID Project leaders provided both face-to-face and online professional learning, where teachers developed high-quality instructional units, which incorporated student use of technologies, creative thinking, and higher order problem-solving. Professional networking and collaboration across the regional consortium fostered high engagement for educators, and high level learning activities for all students. Teachers participating in the project showed significant growth in their level of preparedness to implement Wisconsin's Model Academic Standards for Information and Technology Literacy in their classrooms. Teacher self-assessment on the Survey for the Enacted Curriculum showed significant individual growth in all areas. The INTEL Teach to the Future and Leadership Forum training programs aligned very closely with the Wisconsin standards. The specific training teachers received was shown to have made a significant positive impact on teacher knowledge and skill in using technology in instructional settings.

Professional Development (Coaching and Mentoring)

State	Professional Development (Coaching and Mentoring)
FL	The Florida Department of Education encourages intensive technology integration professional development through organized *Teaching and Learning Institutes*, *Master Digital Educator (MDE)* development, and innovative web-based tool creation. Title IID program expectations and funding have provided the motivation and supplemental support necessary to enable resource creation efforts to succeed. Technology integration mentoring is a core concept and purpose of Florida's *MDE* training initiative. http://www.flinnovates.org/
KY	Just in TIME! Technology Integration for Math Engagement. Teachers in Pike County Kentucky underwent extensive training in enhancing/expanding the effective uses of technology resource tools, which resulted in student achievement, especially at high-need schools. The NCLB IID funds support Technology Integration Specialists to provide teacher mentoring, group targeted training and large group training. The goals of the Just in TIME! initiative were increased student achievement and technology literacy. Just in TIME! included differentiated professional development opportunities (whole group, small group, job embedded). Mentoring, modeling and team teaching took place over a two-year period.
ND	Professional development continues to receive a large amount of attention as school districts have begun to search for better ways to use the technology that they have been purchasing over the years. The number of Curriculum Technology Partners (CTP) continues to rise statewide. A CTP is a person with expertise in technology and experience in the classroom who can assist other teachers in his or her building in the area of integration of technology into the curriculum. Title II Part D partially or wholly funds many positions such as this statewide. By providing a coach who is available to assist without taking over the class, the number of teachers integrating technology into their classrooms, and the quality of technology use in classrooms, has been raised.
NY	In Region 5, through professional development workshops and in "in-push" support, the staff developers mentored teachers in their classrooms. As a result, by the third year of the project there was a growing focus on how technology could reinforce or deepen the teaching of content. This was evidenced by a significant increase in the quality and quantity of student projects. Additionally, targeted schools and classrooms demonstrated the largest continued academic growth within the NYC school system in the areas of ELA and Math over a period of 3 years.
WA	The goals of the NCLB IID Peer Coaching program are to foster the systematic integration of technology into classrooms by training teachers to become coaches for other teachers in their schools. As coaches, they will assist their peers in identifying ways that technology can strengthen classroom curriculum and enhance their students' academic achievements. They will also help their colleagues develop the necessary technology skills and instructional strategies needed to effectively integrate technology into teaching and learning.

Professional Development (Learning Community/General)

State	Professional Development (Learning Community/General)
LA	The *ConnectedTech* program is designed to address school-wide improvement efforts through the effective and expanded use of instructional technology. In particular, *ConnectedTech* schools develop and support exemplary instructional technology models that directly address the goals and instructional strategies of the technology plan and local school improvement efforts to assist teachers with integration of technology into the curriculum, improve teaching practice and technology proficiency, and increase student performance. The creative nature of this program allows schools to design new or support existing effective technology professional development models based on local needs. These models can serve as catalysts for fundamental change in overall teaching and learning processes within the district while promoting school improvement through professional development.
NV	Nevada has implemented several educational technology professional development programs to promote classroom technology integration. Teachers participate in many forms of professional development. These include online PD, through such sources as Teacher Line, a statewide ed tech conference for teachers and administrators, and individualized one-on-one PD through such programs as eMINTS and educational computing strategists. The intent of these programs is to help teachers attain the skills and support they need to fully integrate technology into their instruction.
RI	All competitive grants funded in Rhode Island in FY2005 focused on preparing teachers to integrate technology into their secondary school classrooms in an effort to meet the new proficiency-based graduation requirements. These requirements describe what all students need to successfully know and do in order to meet the intellectual challenges of post-secondary education and high-performance workplaces. In order for students to participate in specialized assessments (exhibitions, portfolios, capstone projects, etc.), it is important that teachers and their students be able to utilize a variety of technologies in authentic ways. All award recipients (275) participated in extensive training (60 hours) led by the University partner and received classroom computers, SMART Boards or useful technologies for their classrooms.
VT	The VT-CITE initiative pulled together 30 technology integration specialists in order to create an interactive community of educators focused on sharing resources and supporting high expectations for teacher and student technology use.

Professional Development (Online or Virtual)

State	Professional Development (Online or Virtual)
MA	Data from the state's annual report, Technology in Massachusetts Schools, published in May 2007, indicated that nearly half of Massachusetts's teachers received formal professional development in educational technology (e.g., workshops, summer institutes, credit courses, or study groups). In addition, slightly more than half of the teachers received ongoing professional development such as coaching, mentoring, and co-teaching. Due in part to the Massachusetts State Plan for Professional Development's recommendation that professional development provide on-the-job, informal support throughout the school year, the use of online professional development continues to grow. Although the percentage of educators receiving online professional development is still less than those receiving other types, 83% of districts reported some use of online professional development, a substantial increase over last years 69%. See report posted on web site http://www.doe.mass.edu/edtech/etreport/2006.doc.
MN	The Southeast Service Cooperative will develop, implement and manage a professional development network for technology literacy and integration. Guided by an ongoing needs assessment, the network delivers focused training in both online and face-to-face formats to nearly 2,500 teachers. Training encompasses multiple learning styles and varying levels of literacy and preparedness for technology integration with teaching and learning.
NM	Online Teaching and Learning Opportunities (OTLO). The grant's purpose was to familiarize New Mexico high school teachers and students with aspects of online teaching and learning. The collaboration included three rural districts (Animas, Lordsburg, and Truth or Consequences) and the Regional Educational Technology Assistance (RETA) program of New Mexico State University. First, twelve teachers were recruited to take a Web-based course provided by RETA to acquaint them with issues in online education. They then created and published four high school courses in their content areas. Teachers worked in groups and authored course content in Literature, Math, Science, and Social Studies. Teachers emphasized rigorous content, interactive and multimedia tools, and building a community of learners through forums and discussions. The courses are currently being co-taught by the teams and beta-tested by four students from each district, who will earn high-school credit upon completion. RETA is assessing compliance of the courses to national online course standards and collecting data from teachers and students about their experiences. In Spring, 2007, the courses were offered free of charge to New Mexico students. The OTLO grant was so successful that a second stage OTLO2 has been funded. More teachers will be supported in creating online courses and more courses will be available to New Mexico students.
SD	The Power Up Project focuses on professional development supported with innovative Web 2.0 technologies that impact instruction, student motivation and student achievement in high school math and science. Teachers will participate in online learning communities as they engage in a collaborative process for reflective practice to increase their own capacity for integrating technology.

Professional Development (Administrative)

State	Professional Development (Administrative)
IL	Illinois targeted the competitive portion the state's NCLB IID funds on the Technologies that Work in Illinois Classrooms (TECH-IL) Program. The TECH-IL Program's instructional model requires conscious alignment of curriculum, professional development initiative, and school vision. Collaborative leadership practice and a team approach to the implementation of the TECH- IL instructional model are required for success. In order to provide leadership and promote support and understanding of the instructional changes that the TECH-IL Program will bring to their buildings, school administrators are required to participate in the Administrators Academy, Implementing the Technology Standards.
UT	The Administrators Working with Educational Data (AWED) program recognized that effective school leadership requires facility with data. Seven rural districts in Utah participated in a two-year professional development for school leaders where they learned to use technology tools to mine their school data and classroom observation data. Developing a learning community for leaders where they look at their school and district data, discuss strategies for helping teachers help students, and investigate research on effective classrooms, had a positive impact in their schools. The first year of data shows positive trends on student achievement on state end-of-level tests.

Trend 7: Wanted: Digital Content/Digital Learning Environments

Effective use of technology in schools requires high-quality digital content and virtual learning spaces, supported through access to technology tools and high-speed networks.

Many schools across the nation are reaching critical mass with respect to access to technology tools and high-speed networks. They are now turning their full attention to digital content and digital learning spaces necessary for students to take full advantage of such access. While many states already have in place digital access to online resources such as encyclopedias, dictionaries, atlases, magazines, and information databases, digital content specific to content standards is more difficult to locate.

Acknowledging the need for new digital resources designed to meet the needs of today's learners, states are using some NCLB IID funds for innovations in this new area. Listed below are examples of states using NCLB IID funds to develop digital content/resources and to establish virtual learning opportunities for students.

Digital Content/Resources

State	Digital Content/Resources
AL	Alabama Learning Exchange (ALEX) is the one-stop shopping Web site for teachers, school leaders, students and parents, and is recognized as top in the nation. The Alabama Department of Education's ALEX Web site is the newly designed, and now award-winning, state education Web portal created by the office of Technology Initiatives. ALEX received the 2007 Best of the Web Honorable Mention from the Center for Digital Education. It is hosted by the Alabama Supercomputer Authority and boasts more than 38,000 interactive links, which provide a free, one-stop resource for Alabama educators to support teaching, learning, and leading. Over 27,000 Alabama educators visit ALEX on a monthly basis. The Web portal also targets and extends support for schools engaging in continuous school improvement, as well as schools organizing to improve graduation rates. Alabama's educators are currently gearing up to create their own Web sites to be hosted on ALEX, to improve communication and student achievement. The new focus of ALEX is coordinating with the nationally known Alabama Reading Initiative (ARI) to develop secondary curriculum and Web-based lesson plans. Visit Alabama's newly designed ALEX at www.alex.state.al.us
LA	The Algebra I Online project, a part of the Louisiana Virtual School (LVS), is a Department of Education initiative. It provides Louisiana students with a certified and qualified Algebra I instructor, and a high-quality Algebra I curriculum, through a yearlong web-based course. The project targets rural and urban districts that have schools with one or more sections of Algebra I being taught by an uncertified mathematics teacher. The project also engages the uncertified classroom teacher in professional development opportunities (both face-to-face and online) designed to assist with the facilitation of the in-class experience and to build capacity for strong mathematics instruction. The program continues to positively impact student achievement and instructional strategies of teachers seeking mathematics certification. Longitudinal data on students who participated in the Algebra I Online program showed that 100% of the study groups' students scored basic or above on the state's 8th grade high stakes test. Two years later, on the state's high stakes 10th grade Graduate Exit Exam, 65% of the same study participants scored basic, 14% scored mastery, and 14% scored advanced.
MD	The MDK12 Digital Library Project establishes a purchasing consortium of 24 local school systems. The goal is to provide a cost-effective way to deliver digital content that supports the teaching and learning of Maryland content standards in an equitable and timely manner for all students. As a result of this initiative, all school systems have access to online databases. Prior to the establishment of the Project, some of the smaller school systems had no online databases and those with online databases were paying a wide range of prices. School systems have been able to save over a quarter-of-a-million dollars through the purchasing consortium. Efforts are underway to establish the Maryland Digital Library, which would leverage the buying power of school, academic and public libraries.

Virtual Learning for Students

State	Virtual Learning
MI	Michigan's State Legislature awarded $1,000,000 to the Michigan Virtual University (MVU) to support their Virtual High School. These dollars were awarded through a NCLB Title II Part D grant. A consortium was formed that included Ingham Intermediate School District and at least one high-need local school district. The grant addressed six areas: • Student scholarships and instructional support • Professional Development and Training • Online Courses and Content Development • Evaluation and Research • Technology Acquisition and Infrastructure Support • Project Administration Over 1,450 online course scholarships were provided for students enrolled in Michigan's high-need LEAs and PSAs; 51% were awarded to students in high-needs schools. Of these students, 547 were in 100% scholarship schools earning credit in a summer school environment. Out of this number, 161 had scores of 60 to 100 %. The opportunity to earn credit during the summer might not have been possible for many of these students prior to the development of online courses. Important lessons were learned from the 2006 summer program, which will impact the implementation of the 2007 program. Students, especially those from high-need schools typically require higher levels of support when taking an online course. Many of these students may have already been experiencing academic difficulties, in part due to the limited support services they receive in their regular school experience. They need the extra support if their summer experience has any chance of succeeding.
TN	The NCLB IID program in Tennessee offers elementary and secondary students access to challenging and engaging academic content through an online curriculum aligned to state and national standards. The e4TN program established one site for the research, development, and implementation (RDI) of online courses. Online courses and technology coaches are two ways that Tennessee is pursuing infusion of technology into classroom activities. These activities reflect technology standards, as well as core content course standards. In this way, technology is used as a tool that fosters growth in achievement.
WY	Johnson CSD #1 - Sheridan CSD #1, Weston CSD #7, Hot Springs CSD #1. The funds from this partnership grant created a learning environment that addresses differentiated needs of all learners. They will institute in the third year of the grant a comprehensive distance learning program through which their teachers will create virtual student programs that are scientifically proven and research based, stainable, student centered, correlated to standards, and cost effective. Students work with teachers to bring effective technology into the classrooms and libraries. The resulting collaboration provides students with project-based learning and the teachers with on-site, sustainable professional development.

Trend 8: Leveraging Data-Informed Decision Making

States are building the capacity of schools to make data-informed instructional decisions.

The NCLB legislation brought with it an era of high-stakes accountability that required all states have data systems to track and record progress related to academic achievement. All states have supported the incremental development of a technological infrastructure, in part through NCLB IID, which serves as the basis for such data collection, analysis, and reporting.

In addition, NCLB IID funds have been used in professional development programs, which build the capacity of teachers and administrators to use the data to inform instructional decisions. As research findings are released on the impact of educational technology interventions, this knowledge base is further informing such decision making.

In Round 5 (FY06), states are reporting NCLB IID support for data-informed decision making in:

- Professional development programs
- Data warehousing
- Data networking and infrastructure
- Access to technology equipment
- Development of knowledge bases of best practices to inform decision making

The following examples provide insights into specific programs funded in FY06:

Data-Informed Decision Making

State	Data-Informed Decision Making
AZ	Isaac/Pendergast Partnership. This partnership focused on using data analysis tools to increase student achievement. The evaluation indicated that more teachers and administrators are accessing student data online to inform instruction. They are becoming more familiar with the different reports obtained from the online assessment. These online tools offer reports by school, class, or student. Also, the different features offered by the software allow teachers and administrators to create templates that serve their needs. Teachers are planning their lessons based on the immediate feedback. As a result lessons are now more meaningful for teachers and students. All administrators received well beyond four hours of staff development in the use of data to drive curriculum and instructional improvement throughout the year and will continue training sessions through the summer.
OH	At the initial stages of this project, the Madison Elementary School, located in Sandusky, Ohio, was in Academic Watch having met just 3 of 14 state indicators. School administrators selected a learning management system, web-based software that aligned with their technology and Continuous Improvement Planning goals to promote high student achievement. Teacher enthusiasm grew quickly when they realized how it matched the state standards and incorporated scientifically based research. Madison's project team collaborated with the curriculum and tech directors to create a professional development plan based on staff and student needs. Evidence of success was provided in the Ohio NCLB IID State Evaluation Report conducted by the University of Akron. The data for 2005-06 to 2006-07 in 3rd grade Mathematics cited a 22.2% academic growth, and for 6th grade Mathematics a 28.4% academic growth for Madison Elementary. Madison Elementary School is confident of its capacity to sustain the program. Sandusky City Schools have in place staff members at the district and building levels who will supply the necessary support needed to maintain the success of the program.

Capacity Building for Data-Informed Decision Making

State	Capacity Building for Data-Informed Decision Making
AK	The Sitka Borough Schools project is an example of an NCLB IID program that was built on prior district work. Its aim is to improve the accessibility and use of student data to inform decision making at the classroom, building, and district levels in support of student learning. The project included upgrades to the data management software used in the district; improvements in the methods used to gather, record, analyze, and interpret relevant student data; and professional development for various groups of staff members in these topics. All of these efforts were designed to aid in the implementation of standards-based instruction - a focus for district, state, and federal efforts to improve student learning. "The ultimate goal is to turn clean data on students into information that teachers and administrators can use at their desktops to make informed educational predictions and decisions on a daily basis. Rather than to supply out-dated data about where students have been, we will use timely information to formulate where students need to go and plan instruction accordingly."
MA	Seven high need school districts were funded under NCLB Title IID to participate in the pilot program for the Galileo Instructional Data System, a partnership between the state and Massachusetts school districts. The goals of the program were: • To implement district-wide benchmark assessments • To establish formal systems for student intervention and support • To engage teachers in classroom formative assessment The results of Year 1 implementation included: • The assessment of 15,790 students through benchmark assessments (82 different benchmark assessments were developed and administered in the pilot districts, with 10% online) • Professional development that impacted 420 educators (for a total of more than 6,200 hours and included not just learning the data system, Galileo, but more importantly, the determination of what standards would be assessed, how to build benchmark and formative assessments, how to analyze the data, how to use data for intervention, and improvement in teaching strategies) • Use of the Galileo system by over 480 teachers and 78 administrators • Twelve middle school teachers who used Galileo and created formative assessments • Grade level clusters review of the data and use of it for strategic grouping and to improve instruction For the first time, they had data to provide summer school teachers with specific information about the needs of their students, and a series of formative assessments as well as entrance and exit tests to measure student progress. Visit: http://www.doe.mass.edu/omste/galileo/default.html

Section III: Competitive Grant Program

Facts and Figures

Competitive grants are awarded based on an application and selection process, and only high-need LEAs, or partnerships that include a high-need LEA, can apply. In past years of the NCLB IID program, states could conduct a competitive grant process through which 50% of the funds allocated for NCLB IID awards for that year, and any carryover funds from previous years, could be awarded to eligible LEAs. (SEAs were required to distribute the other 50% through formula awards.)

Round 5 (FY06) was the first year in which the states could opt to allocate 100% of their available funds through the competitive process. Ten states (Arkansas, Georgia, Idaho, Indiana, Iowa, Missouri, New Hampshire, Pennsylvania, Rhode Island, and West Virginia) took advantage of this new opportunity.

In the Round 5 competitive grant program (FY06), states awarded 1,094 competitive grants, totaling approximately $148 million. Despite the fact that 10 states opted to distribute up to 100% of their NCLB IID funds through competitive awards, the total number of grants and the total funds awarded through competitive grants was substantially smaller in Round 5 than in previous years.

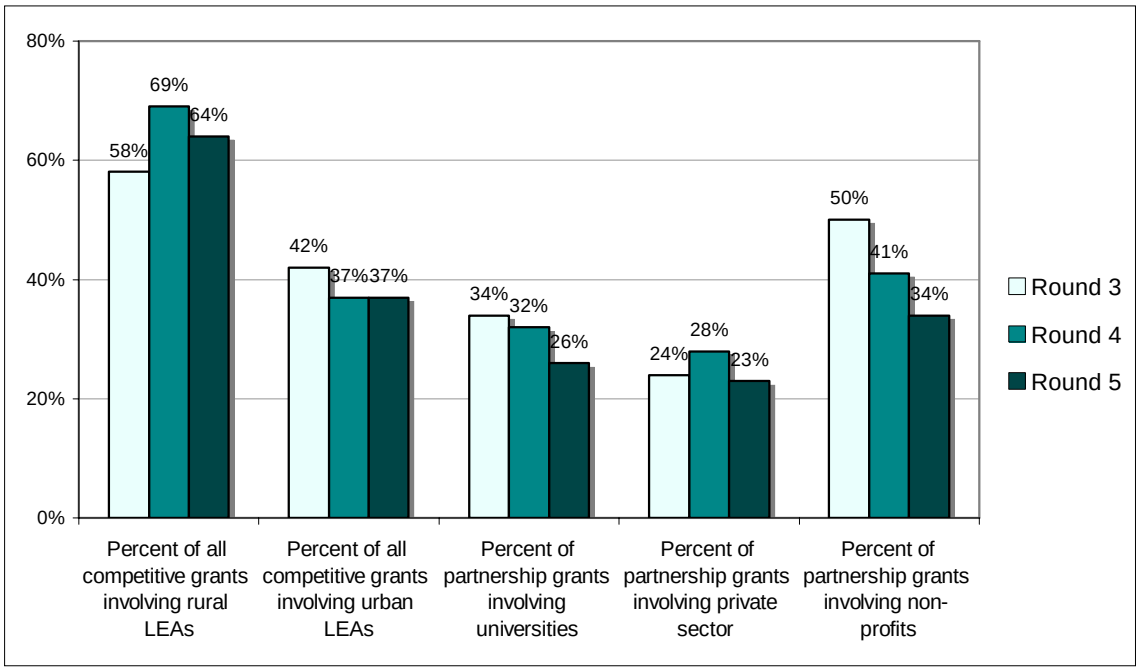
Table 3. Competitive Grant Funds from NCLB IID for 50 states and the District of Columbia (Excludes U.S. Territories).

Round 1 (FY02)	Round 2 (FY03)	Round 3 (FY04)	Round 4 (FY05)	Round 5 (FY06)
$282,717,622	$294,084,058	$301,638,047	$219,545,585	$148,336,047

Of the 1,094 Round 5 competitive grants awarded, 584 (52%) were continuation grants, 406 (36%) were listed as partnership grants, and 717 were identified as LEA-only grants (64%). Survey respondents reported that 26% of the partnership grants involved universities, 23% involved private sector partners, and 34% involved non-profit partners.

The figure below shows trends related to sectors involved in NCLB IID competitive partnership grants from Round 3 to Round 5.

Figure 5. Percent of Round 5 (FY06) Competitive Partnership Grants Involving Various Sectors



Note: Percentages for each of the rounds include all 50 states and the District of Columbia (N=51).

Across all competitive grants (partnership and LEA only), approximately 64% involved rural schools, compared to 69% in Round 4. The number of competitive grants involving urban schools remained constant from Round 4 to 5 at 37%.

Examples of Competitive Grants That Involved Partnerships

State	Competitive Grants That Involved Partnerships
IA	The Heartland AEA 11 E2T2 used E2T2 funds to develop and support a learning community of middle school mathematics educators. Over three years, a learning community developed that focused on conceptual understanding, productive disposition, procedural or computational fluency, adaptive reasoning, and strategic competence in mathematics students. The Heartland AEA 11 consortium program provided each participating school from 53 districts with three years of professional development activities. The methods of instruction integrated theory, demonstration, practice, and coaching through face-to-face meetings, ICN sessions, and on-site visits. The project used a mix of professional development formats, but bi-monthly visits by Heartland AEA 11 math cadre members proved to have the greatest impact on changing teacher attitude and behavior. Technology was used as a tool for communication, instruction, professional development, and assessment throughout the grant. ITBS student achievement data from 19 schools were tracked for individual students, with the resultant data indicating a 0.64 effect size. Students moving from grade 6 to grade 7 during this period experienced the most significant change with the number of non-proficient students decreasing by 15.5% and the number of above proficient students increasing 14.6%. The model will be continued at the middle school and moved to the high school with an emphasis on meaningful distributive practice, problem-based instructional tasks, teaching for understanding, and integrating technology into the mathematics classroom.

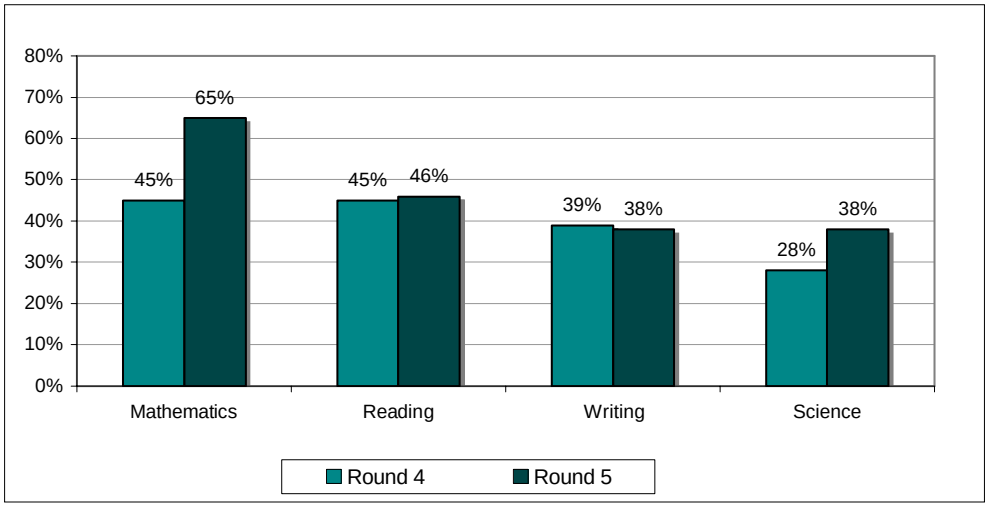
State	Competitive Grants That Involved Partnerships
OR	Technology Integrated into Learning and Teaching (TILT) Project. Eugene School District, in partnership with the University of Oregon, will offer professional development focused on the integration of technology into K-8 reading and writing instruction. By focusing on the ELA core content area, the Technology Integrated into Learning and Teaching (TILT) Project will have an impact on both basic skills and literacy-based content learning. The TILT Project has four goals: (1) improve student academic achievement in reading and writing, (2) increase teacher and student access to technologies that support and enhance reading and writing instruction; (3) improve teacher knowledge and skill related to integrating technology into the teaching and learning of reading and writing across the curriculum; and (4) increase teacher and student knowledge in the digital "illiteracies" of reading, writing and studying in electronic environments. The TILT Project will strive to improve student achievement as measured by at least 5% increase in the number of students meeting or exceeding the standards on state assessments.
WA	The Technology and Learning Disabilities (TLD) Project includes working with 6th through 12th grade special education teachers to improve teaching practices in reading, writing, and mathematics using assistive technologies. This project is directed by the Special Education Technology Center (SETC) at Central Washington University

Focus of Competitive Grants

Forty-two of the 50 states and D.C. (81%) guided their LEAs' use of competitive grant funds by establishing programmatic priorities to increase achievement of NCLB IID goals.

In alignment with the NCLB IID goals, states focused their competitive Requests for Proposal (RFPs) on the academic areas of Mathematics (65%), Reading (46%), Science (38%), and/or Writing (38%). Compared to Round 4, emphasis on both Mathematics and Science increased by at least 10% (see Figure 6 below).

Figure 6. Percent of States with Academic Emphasis for Competitive Grant RFPs, Rounds 4 and 5



Note: Percentages for Round 4 and 5 include all 50 states and the District of Columbia (N=51).

Examples of Competitive Grants Focused on Academic Achievement

State	Focused on Academic Achievement
HI	LEI- Learning with Everyone Involved, Laurie Pe`a, Leilehua Complex. The professional development afforded by this grant directly supports the Leilehua and Waialua Complex schools' efforts toward meeting the goals outlined in the Hawaii State Strategic Plan: Goal 1: Improve student achievement through standards-based education Goal 2: Provide comprehensive support for all students Goal 3: Continuously improve performance and quality Schools in Leilehua and Waialua Complex are implementing the Standards-based Change Process. Grant resources are being utilized to create the additional time needed for articulation and collaborative planning, which is an integral part of this process. Professional development opportunities for teachers to use and analyze data, and make informed instructional decisions support efforts to improve student achievement. The professional development related to electronic portfolios has enabled teachers to utilize technology as a tool to collect student work. Students are able to self-assess their work and monitor their progress through E-Portfolios. In turn, teachers and students will broaden their knowledge and use of multimedia software, digital cameras, scanners, and video cameras, all of which can be used to enhance teaching and learning via technology in the classroom. The use of E-Portfolios is allowing teachers and administrators immediate access to student work and analysis of student learning. This is strongly supporting the Hawaii DOE's efforts to increase the level of data-driven decision making at the school level to improve student learning. Preliminary evidence suggests the use of E-Portfolios enhances and strengthens this priority. The E-Portfolios also allow students to readily transfer documentation of their academic performance from one class to another, or from one school to another.
ND	Madison Elementary School in Fargo is focusing on its LEP and Special Education populations with the funds that they were awarded. They will be using handheld devices in assessment for immediate data input and working with the data that they collect to make adjustments and improvements in the delivery of curriculum. Also funded were extensive professional development and a part-time staff person who will analyze the data and assist in helping teaching staff to make appropriate adjustments to the curriculum delivery for the targeted students.
OK	As part of the competitive application for Title IID Frontier Public Schools stated that 42% or more of Frontier students score proficient in Mathematics based on state intermediate performance index goals for 2006-07 and on results on state-mandated assessments. Fifty-four percent or more of Frontier students will score proficient in Reading based on state intermediate performance index goals for 2006-07 and on results on state-mandated assessments. Eighty percent or more of participating Frontier teachers, administrators, and other professional staff will report an increase in knowledge of scientifically based effective practices in integrating advanced technologies in teaching core academic subjects consistent with PASS standards. Sixty percent or more of participating Frontier parents will report an increase in knowledge of the roles of advanced technologies in teaching core academic subject content consistent with PASS standards.
SC	Dillon School District One and Florence School District One. The Gr8 Tech-tonics project is a research-based initiative that seeks to drastically alter science achievement and technology proficiency for 8th graders in two school districts though the use of laptops and an innovative curriculum. The project seeks two levels of technology access where Lake View High will provide laptop checkouts for 24/7 access, while Southside Middle School will provide laptop carts to all science classrooms. The creation of a three-day, Tech-Knowledgey Boot camp will provide teachers, students and parents with a hands-on approach to learning science and technology prior to the start of the school year. The grant's three goals are to improve student achievement on state standardized testing in science; to increase proficiency in technology; and to increase parental and community involvement in student learning. Other objectives of the grant include increasing student attendance rates and decreasing disciplinary incidents. The goals will be achieved through increased professional development, intense and innovative curriculum planning, and the use of diagnostic and portfolio-based assessment. By the end of the Gr8 Tech-tonics project, both schools will be models of 1-to-1 laptop integration for increased student achievement.

While only 17% of the 50 states and the District of Columbia established priorities for early elementary grades (PreK-2), 27% did so for intermediate grades, 38% for middle schools, and 31% for high schools.

Specific emphases in the competitive processes included:

- Professional development beyond the 25% required (26 states)
- Data-driven decision making (14 states)
- Laptop programs (10 states)
- Instructional management systems (4 states)
- A specific model of classroom instruction only (6 states)

Examples of Competitive Grants With Specific Emphasis

State	Competitive Grants with Specific Emphasis
MS	Gulfport School District's Round 5 E2T2 grant helped the district launch Phase III of Project ACTIVATE (Assisting Children Through Inclusion in Vigorous Activities with Technology Everyday). Project ACTIVATE is a long-range plan to facilitate learning, engage learners, motivate teachers, and increase technology literacy using a variety of resources. These include electronic portfolios, interactive whiteboards, handheld student response devices, and high-quality professional development. With funds from the Year 5 E2T2 Competitive Grant, we focused our efforts on the 4th grade classrooms at four district elementary schools and three local parochial schools. Funds from the grant assisted the district in providing an interactive whiteboard system equipped with individual student input devices enabling each child to electronically participate in classroom discussions and assessments. With assistance from their teachers and district trainers, 4th grade students developed an electronic portfolio, which is revised and enhanced each year after 4th grade. To insure teachers could effectively use the technologies to facilitate learning, they participated in comprehensive, yearlong professional development sessions offered in-house by certified trainers. With the intent of fostering a vision for the future and an excitement for technology, participating teachers attended sessions, for the first time, at the National Education Computing Conference.
NY	New Your City's Region 5, Title IID After School Technology Program gave the neediest students (Level 1 and Level 2 students) extended time to work on WebQuest/ThinkQuests. These focused on a specific academic weakness in the areas of ELA/Math as identified through the school Grow Report or Princeton Interim Assessment. In this way, students had the opportunity to research/create a unit of study using one of the Project-Based Learning models. These models provided a vehicle in which students explained newly learned concepts in their own words and thus developed deeper understanding of a specific curriculum. The success of this program is evident as student retention rate was 93% and test scores with this target group steadily grew over a period of 3 years. In addition, the following academic achievements were met as a result of the NCLB IID grant: • An 18.4 increase in the percentage of students scoring at or above grade level on the ELA Grades 3-8 exam over a period of 3 years. • A 22.3 increase in the percentage of students scoring at or above grade level on the Math Grades 3-8 exam over a period of 3 years.
SD	This project will provide instruction on the principles of formative and summative assessment. Educators will become proficient in the use of Achievement Series and incorporate technology that will actively engage students in learning to improve student achievement. Teachers will analyze student data to determine student learning priorities, monitor progress, and help sustain continuous improvement. Teachers will write and implement standards-based lessons with the assistance of a cognitive coach, and incorporate existing technology to engage students in learning.

When asked to rank the top five most pursued strategies that LEAs included in projects funded by competitive grants in Round 5, state directors identified professional development as the most pursued strategy.

The ranking of 5 top strategies pursued in competitive grant projects are listed in priority order:

1. **Professional development**
   Professional development that provides school teachers, principals, and administrators with the capacity to integrate technology effectively into curricula and instruction, aligned with challenging state academic content and student academic achievement standards, through such means as high-quality professional development programs.

2. **Increase achievement and technology literacy**
   Adapt or expand existing and new applications of technology to enable teachers to increase

student academic achievement, including technology literacy.

3. **Technology**
   Acquire, adapt, expand, implement, repair, and maintain existing and new applications of technology to support the school reform effort and to improve student academic achievement, including technology literacy.

4. **Increase access**
   Establish or expand initiatives, including initiatives involving public-private partnerships, designed to increase access to technology, particularly in schools served by high-need local educational agencies.

5. **Develop experts**
   Prepare one or more teachers in elementary and secondary schools as technology leaders with the means to serve as experts and train other teachers in the effective use of technology, providing bonus payments to these teachers.

Evaluation

States reported that their primary knowledge/research base used to guide the focus of LEA competitive grants was the International Society for Technology in Education (ISTE) site (37 states), followed by the Regional Educational Laboratories (32 states). This was consistent with reports from prior years.

States are encouraging LEAs to conduct research, but are less inclined this year than last to require LEAs to conduct research on their own. However, states are increasingly setting a requirement that LEAs participate in a research protocol established by the state. (See table below.)

Table 4. Trends in evaluation of Competitive Grants, Rounds 3-5

SEA Approach to Research Related to Competitive Grants	FY05	FY06
	Number of States	
Applicants *required* to conduct research studies	9	3
Applicants *encouraged* to conduct research studies	17	19
Applicants *required* to provide a research basis for their projects	13	10
Applicants *encouraged* to provide a research basis for their projects	19	17
Applicants required to participate in research protocols established by the state	10	12
Other	3	3

While seventeen states indicated that "recipients of competitive funds used funds to conduct experimental or quasi-experimental research" in Round 4, this number decreased in Round 5 to only ten states.

Thirty states reported conducting an evaluation of the NCLB IID program at the state level in Round 5, compared to 33 states in Round 4. Most states reported funding the state evaluation through the 5% State Administration Funds or through a requirement that grantees dedicate a percentage of their funds to this purpose, while a few reported using state funds. Most states require LEAs to conduct a local evaluation of their NCLB competitive grant program as a stipulation of accepting the award.

> *"Each competitive grant recipient is required to evaluate the effectiveness of the program implemented. This evaluation is collected, analyzed and disseminated at the state level."*
>
> — *Colorado*

In summary, Round 5 brought an increased emphasis in mathematics, new options for states to distribute all available NCLB IID funds through competitive awards, and renewed emphasis on capacity building through professional development. That said, the level of funding was decreased to half of that available during the initial years of the NCLB IID program. The result is more focused emphasis on student outcomes and teacher/classroom capacity to use technology effectively.

Table 5. Competitive Grant Data

State	Release Date Competitive (Round 5)	Total Awards Round 5: Competitive	Total Number of Competitive Grants	Number of Partnership grants w/Rural LEAs	Number of Partnership grants w/ Urban LEAs	Number of Competitive Partnership Grants
Alabama	10/17/06	$3,440,322	46	28	2	30
Alaska	7/1/06	$762,219	6		3	1
Arizona	7/1/06	$4,922,720	20	7	3	10
Arkansas	8/15/06	$2,409,309	14	3		3
California	8/31/06	$15,545,114	76	21	36	57
Colorado	4/1/07	$1,426,599	8			2
Connecticut	11/15/06	$1,104,380	10		1	1
Delaware	3/13/06	$625,741	2	2		2
District of Columbia	5/15/07	$1,765,751	5			
Florida	3/13/07	$7,507,788	7	1		1
Georgia	4/13/06	$8,014,073	96			
Hawaii	10/1/06	$1,117,210	11	5	4	4
Idaho	1/22/07	$1,264,265	17	1		1
Illinois	7/1/06	$4,621,628	25			1
Indiana	6/30/07	$3,576,589	32	17	4	12
Iowa	7/1/07	$1,251,482	12	9	3	9
Kansas	5/1/06	$1,400,000	20	12	8	12
Kentucky	7/1/07	$1,778,136	27			
Louisiana	7/1/06	$2,732,125.	23	18	5	23
Maine	7/1/07	$625,741	8			
Maryland	7/1/06	$1,678,581	14	5	3	5
Massachusetts	9/1/06	$3,011,316	41	2	9	29
Michigan	8/1/06	$7,571,417	13	7	5	12
Minnesota	3/1/07	$874,658	9	7	2	9
Mississippi	12/4/06	$3,365,365	9	2		2
Missouri	7/1/06	$3,129,068	16			
Montana	7/1/07	$593,452	6	6		6
Nebraska	8/10/06	$625,741	10	3	2	5
Nevada	9/18/05	$1,240,267	6	1	1	1
New Hampshire	8/13/06	$1,251,485	26	5	3	8
New Jersey	6/8/06	$2,778,678	20	1	5	20
New Mexico	11/15/05	$1,914,208	30	4	4	6
New York	5/3/04	$19,837,861	45	22	6	22
North Carolina	2/4/08	$661,000	15			
North Dakota	11/1/06	$694,753	11			
Ohio	2/12/07	$4,596,707	50			
Oklahoma	11/1/06	$1,352,020	19			

State	Release Date Competitive (Round 5)	Total Awards Round 5: Competitive	Total Number of Competitive Grants	Number of Partnership grants w/Rural LEAs	Number of Partnership grants w/ Urban LEAs	Number of Competitive Partnership Grants
Oregon	6/14/07	$1,427,091	14			3
Pennsylvania	7/1/06	$9,390,074	67	27	9	55
Rhode Island	12/1/06	$1,200,000	17		1	1
South Carolina	7/1/06	$1,739,313	9			1
South Dakota		$625,741	13	3		8
Tennessee	12/1/06	$2,100,000	8			
Texas	9/1/06	$12,604,048	43	2		2
Utah	7/1/06	$625,740	5	3	5	5
Vermont	7/1/06	$625,000	4	4		4
Virginia	3/1/07	$2,003,586	8	8	3	8
Washington	7/1/07	$1,706,421	60			
West Virginia	8/30/06	$1,830,522	12			
Wisconsin	7/1/06	$1,835,726	21	19	12	20
Wyoming	5/19/06	$625,741	10	7		6
TOTAL		$159,406,772	1096	262	139	407

Section IV: Formula Grants

Facts and Figures

NCLB IID formula grants are allocated based on a percentage of the eligible public school district's Title I funding. School eligibility is based on U.S. census data that identifies high-poverty, underperforming, technology-deficient schools. By law, one half of the funds that flow through the SEAs under NCLB IID are awarded by formula grants to eligible LEAs and one half are awarded by competition to eligible entities, which must include high-need LEAs. In the fiscal year (FY) 2006 appropriations bill, when the appropriation was reduced from $461 million to $272 million, Congress added language overriding the statutory provision that states use 50% of the amount available for formula awards and 50% for competitive awards and permitted states to apply 100% of funds available for grants to the competitive grant process.

Round 5 marks the first year in which states had the flexibility to reserve up to 100% of available funds for competitive grants. Ten states took advantage of this flexibility and opted out of the formula grant program. Those states were: Arkansas, Georgia, Idaho, Indiana, Iowa, Missouri, New Hampshire, Pennsylvania, Rhode Island, and West Virginia. These states made the determination that the size of the formula grants at the reduced Round 5 funding rate would not have provided a significant impact on their programs. For example, if Missouri had opted to offer formula grants in FY06, 41% of districts would have received under $1,000. In total, 88% of districts would have received under $5,000. On the other hand, in other states the formula funding is a substantial amount that can be used to supplement established programs.

A total of approximately $93 million was awarded in Round 5 through 11,407 LEA awards by the 40 states and the District of Columbia, which opted to continue with formula grants.

Award Size

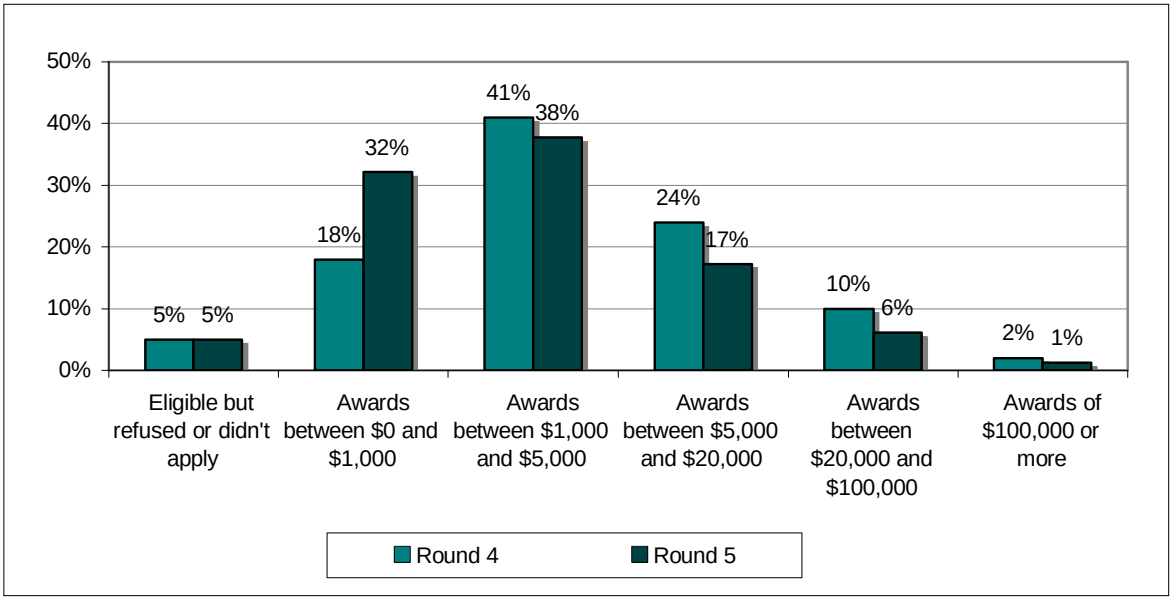
The amount of formula grants awarded to local school districts in Round 5 varied considerably. As the table below indicates, 70% of the awards in Round 5 (FY06) were $5,000 or less, as compared to 60% in Round 4 (FY05). Fourteen states (33%) reported awarding at least one grant under $20, while five states reported awarding a grant greater than $1 million. The state that awarded the largest single formula grant in the country in FY 2006 was New York ($8,292,713). Given that in Round 4, 59% of the grants were $5,000 or less, it is not surprising that, in Round 5, 10 states moved to a 100% competitive grant process for NCLB IID.

Table 6. Distribution of Formula Grants in Round 5

	Not Eligible	Eligible: Refused or didn't apply	Awards: $0 - $1000	Awards: $1001- $5,000	Awards: $5,001- $20,000	Awards: $20,001 - $100,000	Awards over $100,000
Number of LEAs	1,306	625	3,848	4,626	2,080	712	141
Percentage of eligible LEAs (N= 12,032)	N/A	5%	32%	38%	17%	6%	1%

Note: Percentages based on the number of LEAs eligible for funding (N=12,032) representing 40 states and the District of Columbia.

Figure 7. Trends in Size of Formula Grants, Rounds 4 and 5



Note: Percentages for Round 4 include all 50 states and the District of Columbia (N=51), while percentages for Round 5 include only the 40 states and the District of Columbia participating in the formula program (N=41).

In general, the number of formula awards was smallest in the history of the program, and there were a larger percentage of formula grants that were under $5,000 per LEA than all prior years.

Transfers

Districts used the option provided for transferring funds between federal categories. As in past years, the transfers in and out were within 5% of the total dollars awarded. In Round 5, LEAs transferred approximately $2.9 million out of NCLB IID into other Title programs, and approximately $3.2 million into NCLB IID from other Title programs, for a net effect of $274,134 (see Table 7). The largest transfers out of Title IID went into Title V (Promoting Informed Parental Choice and Innovative Programs), whereas the largest transfers into Title IID were from Title II, Part A, Teacher and Principal Training and Recruiting Funds (Improving Teacher Quality) (see Table 8).

Table 7. Overall Fund Transfer Between Title Programs and NCLB IID

Rounds	Dollars Transferred In	Dollars Transferred Out	Net Gain/Loss From Transfers:
Round 1	$4,257,733	$1,934,431	$2,323,303
Round 2	$3,087,476	$3,096,308	- $8,831
Round 3	$6,070,630	$2,783,732	$3,286,898
Round 4	$8,724,420	$9,663,246	-$938,826
Round 5	$3,208,243	$2,934,109	$274,134

Table 8. Title IID Program Fund Transfer – Round 5 (FY06)

	Title I	Title II A	Title IV A	Title V	Other*	Totals
Funds transferred INTO Title IID from:		$2,465,117	$235,541	$25,668	$481,917	$3,208,243
Funds transferred OUT OF Title IID into:	$263,239	$240,210	$9,920	$2,420,740		$2,934,109
Net Gain/Loss for Title IID	**-$263,239**	**$2,224,906**	**$225,621**	**-$2,395,072**	**$481,917**	**$274,134**

*Title programs not specified.
Note: REAP-Flex funds also impact Title IID funds, but are not included here since they do not constitute a transfer, but rather can be reallocated within existing programs.

Definitions:

Title I Programs: Improving the Academic Achievement of the Disadvantaged. The purpose of this title is to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments. Funds cannot be transferred out of Title I.

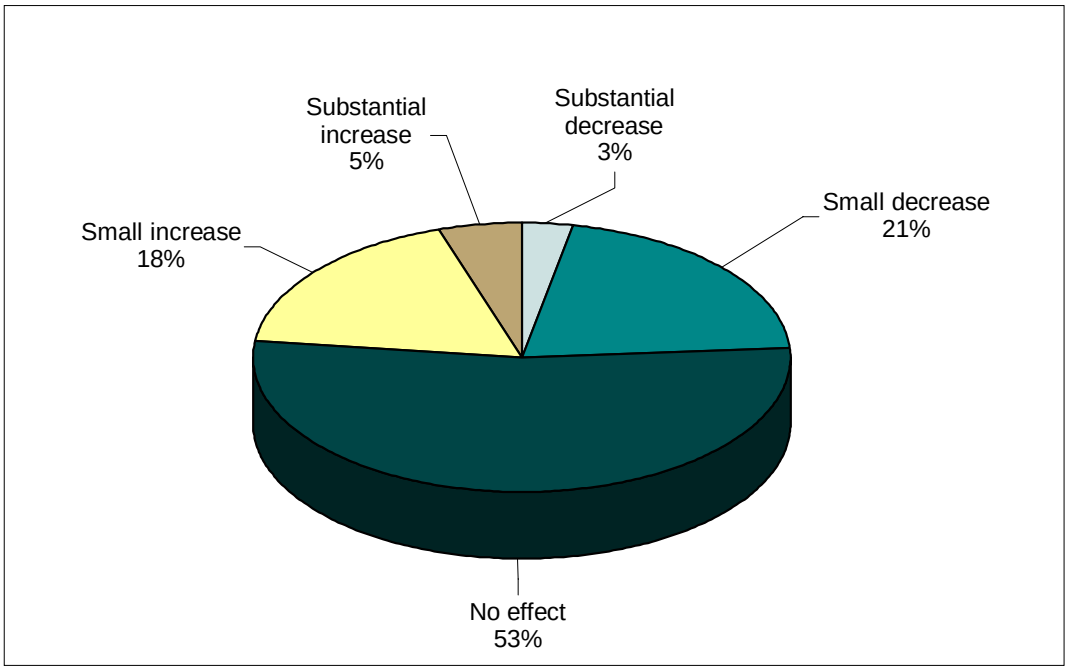
Title II, Part A: Teacher and Principal Training and Recruiting Fund (Improving Teacher Quality). The purpose of Title II A is to increase student academic achievement through strategies such as improving teacher and principal quality and increasing the number of highly qualified teachers in the classroom and highly qualified principals and assistant principals in schools, as well as "to hold local educational agencies and schools accountable for improvements in student academic achievement."

Title IV, Part A: 21st Century Schools - Safe and Drug-Free Schools and Communities. The purpose of this part is to support programs that prevent violence in and around schools; that prevent the illegal use of alcohol, tobacco, and drugs; that involve parents and communities; and that are coordinated with related Federal, State, school, and community efforts and resources to foster a safe and drug-free learning environment that supports student academic achievement.

Title V: Promoting Informed Parental Choice and Innovative Programs. The purpose of this part is to improve the quality of education for all students through the support of local education reform efforts that are consistent with and support statewide education reform efforts; to implement promising reforms and school improvement based on scientifically based research; to provide a continuing source of innovation and educational improvement; and to develop and implement programs to improve school, student, and teacher performance.

Rural Education Achievement Program use of alternative funds authority (REAP-Flex) provided additional flexibility in the use by rural states of Title funds, but without a transfer. Over 23% of state directors reported a small or substantial increase for their program through REAP-Flex, with 24% reporting a small or substantial decrease, and 53% reporting no effect.

Figure 8. Net Effect of REAP-FLEX On the Use of Formula Funds to Advance Effective Uses of Technology in Rural, Small Schools



Source: SETDA Trends Report, Round 5 (FY06) (N=41).

In terms of instructional use, the states reported continued high use of their funds on professional development, increasing achievement and technology literacy, and proven learning and technology solutions. They reported a slight decrease in LEA use of NCLB IID funds for assessment, and fostering of outreach and communication with parents. Meanwhile, the use of data management and informed decision making and developing experts was consistent with prior years. Note, "REAP-Flex" is the term that the U.S. has given to the "alternative uses of funds" authority under the Small, Rural School Achievement program. This authority provides flexibility to eligible, rural LEAs to support local activities under an array of federal programs in order to assist them in addressing local academic needs more effectively. REAP-Flex does not involve a transfer of funds from one program to another. Rather, REAP-Flex gives an LEA broader authority in spending "applicable funding" for alternative uses under selected federal programs.

State directors were also asked to rank the top five most pursued strategies by LEAs through NCLB IID formula grant awards in Round 5. The most frequently cited priority for NCLB IID use in formula awards was professional development followed closely by increasing achievement and technology literacy and developing experts. It seems LEAs are focusing on student outcomes and increasing access, while also trying to build capacity in learning and technology through professional development, the development of experts, and the use of data to inform decision making within their schools.

Listed below are the rankings of the top five strategies used in projects funded with formula grants.

1. **Professional development**
   Professional development that provides school teachers, principals, and administrators with the capacity to integrate technology effectively into curricula and instruction aligned with challenging state academic content and student academic achievement standards, through such means as high-quality professional development programs.

2. **Increase achievement and technology literacy**
   Adapt or expand existing and new applications of technology to enable teachers to increase student academic achievement, including technology literacy.

3. **Develop experts**
   Prepare one or more teachers in elementary and secondary schools as technology leaders with the means to serve as experts and train other teachers in the effective use of technology, providing bonus payments to these teachers.

4. **Increase access**
   Establish or expand initiatives, including initiatives involving public-private partnerships designed to increase access to technology, particularly in schools served by high-need local educational agencies.

5. **Data management/Informed decision making**
   Use technology to collect, manage, and analyze data to inform and enhance teaching and school improvement efforts.

The examples that follow provide perspectives on the type of programs funded through formula grants:

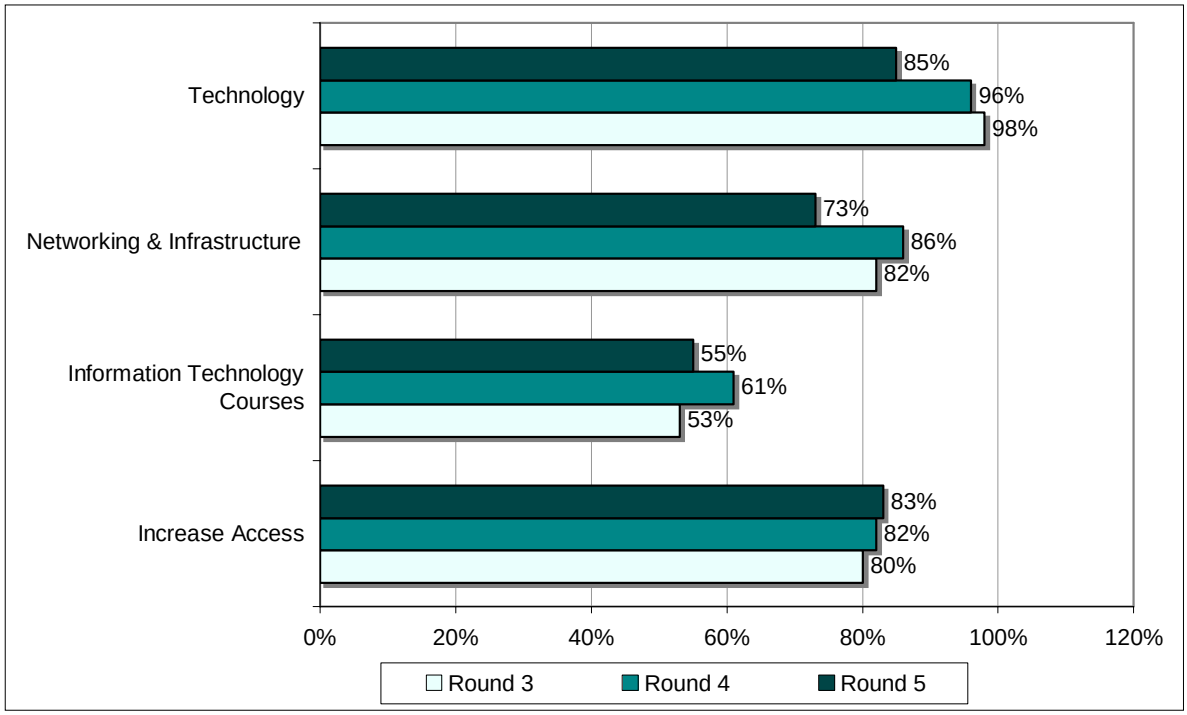
Examples of Instructional Programs Funded Through Formula Grants

State	Instructional Programs Funded Through Formula Grants
AZ	Arizona used both formula and competitive awards to support the assessment of 5th and 8th grade technology literacy. A requirement was included in the 2005-2006 NCLB IID RFP to set aside 2% of all discretionary funding; and of those who received $30,000 or more in formula funding with the intent to secure an online technology literacy assessment for 5th and 8th graders. As a result, Arizona contracted with Learning.com for the TechLiteracy Assessment product and tested nearly 25,000 5th and 8th grade students in Spring of 2006. Based on this data, Arizona can demonstrate that the state is making progress toward all students being technology literate by the 8th grade.
OH	Ohio is making progress in providing schoolteachers and principals with the capacity to integrate technology effectively into curricula and instruction. This integration is aligned with Ohio's state academic content standards. The most frequently pursued strategies that LEAs include in their formula Title IID projects is funding for professional development.
MD	To encourage the effective integration of technology resources and systems with teacher training and curriculum development, several school systems have used formula funds to support positions for technology integration. These positions are known as eCoaches, technology infusion specialists, technology leaders, building level experts, technology resource teachers, etc. These positions design and implement school-based staff development; plan, teach and lead follow-up professional development; and serve as peer mentors to other teachers at their school in the area of accessing and using technology-based resources for instruction to prepare them to become experts. The systems that have implemented these positions are seeing a marked improvement in the technology integration skills of its teachers.

State	Instructional Programs Funded Through Formula Grants
VA	The Commonwealth of Virginia has made significant progress in changing and improving the instructional practices of teachers through NCLB IID. The NCLB IID formula grant program has increased the number of instructional personnel integrating technology into instruction and raised awareness among school administrators regarding the value technology adds to the instructional process. Virginia public schools employ instructional technology resource teachers at a rate of one position per 1,000 students. In 2006 the Virginia Department of Education commissioned a study that examined: the relationship between the instructional technology resource teacher program and levels of technology practiced in schools; the impact of the instructional technology resource teacher program on classrooms and teachers; and the impact of the instructional technology resource teacher program on students. Results from the study indicate that the program contributes significantly to reaching the NCLB Title IID goal of encouraging the effective integration of technology resources and systems with teacher training and curriculum development.

In the area of techological use and infrastructure, the NCLB IID recipients continued to use their formula awards to increase access and provide information technology courses. However, use in other areas such as networking and purchasing technology declined slightly.

Figure 9. LEA Activities Funded by Formula Grants: Topics Related to Access, Rounds 3-5



Source: SETDA Trends Report, Round 5 (FY06) (N=41).

Examples of Technology Programs Funded Through Formula Grants

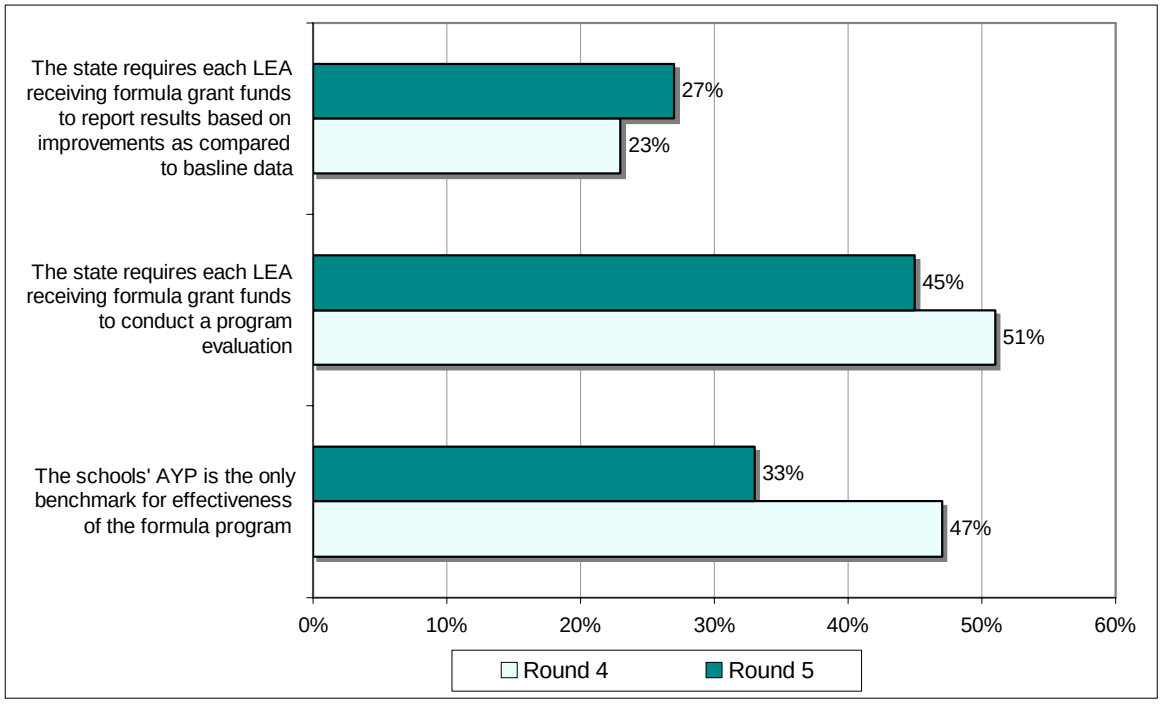
State	Technology and Infrastructure Programs Funded Through Formula Grants
CA	As a result of both the formula and competitive grant programs funding under Title IID, California has decreased the student to computer ratio and expanded broadband access to nearly all of the districts in the state. Student and teacher access to technology literacy has significantly increased in rural schools.
KY	Districts continue in their improvement planning to address teacher proficiencies in using technology and access to technology. Title IID formula funds are primarily used in three categories: workstations, teacher professional development, and peripherals (document cameras, digital cameras, projection devices, etc). Using Title IID formula funds in conjunction with state offers of assistance and local funds, districts upgraded or replaced workstations to improve functionality with instructional and administrative software and speed in accessing the Internet.
MT	The formula level funds have assisted districts in purchasing technology and providing professional development. With the available funding, the progress is slow but steady.

Evaluation

Given that 70% of the formula grants awarded for NCLB IID are $5,000 or less, it is not surprising to see some reduction in state requirements for evaluations of such grants. That said, 33% of SEAs are using AYP as the only evaluative benchmark, 45% are requiring that each LEA conduct a program evaluation, and 23% are requiring the reporting of results compared to baseline.

> *"Title IID funding has been too inconsistent to enable the state to evaluate formula funding in a valid manner. Only 19 New Jersey districts had formula allocations of $10,000 or greater in Round 5, and the state administrative allocation was 61% lower than in Round 3. At this level of funding, comprehensive impact evaluation is not practical. We did begin collecting data on 8th grade student technological literary achievement levels in Round 5, as defined by NJ State Core Curriculum Content Standard 8.1, and will be able to show trends in reaching that Title IID goal once we have two years of data."*
>
> — *New Jersey*

Figure 10. State Approach to Evaluation of Formula Grants



Note: Percentages for Round 4 include all 50 states and the District of Columbia (N=51), while percentages for Round 5 include the 41 states participating in the formula program (N=41).

Overall, the number of formula grants awarded is down, the number of such grants under $5,000 has increased, and the focus of such grants has honed in on student outcomes, proven solutions, and building capacity through professional development and new expertise.

Table 9. Formula Grant Data

State	Release Date Formula Funds (Round 5)	Number of LEAs	Number of LEAs independently eligible for NCLB IID Round 5	Percent of LEAs independently eligible for NCLB IID Round 5	Number of formula grants awarded in Round 5
Alabama	10/1/06	131	129	98%	127
Alaska	11/1/06	54	52	96%	45
Arizona	7/1/06	596	394	66%	292
California	1/29/07	1492	1182	79%	983
Colorado	7/1/06	180	176	98%	172
Connecticut	8/1/06	226	148	65%	148
Delaware	7/1/06	35	33	94%	30
District of Columbia	12/21/06	54	51	94%	50
Florida	7/1/06	74	72	97%	68
Hawaii	10/1/06	1	1	100%	4
Illinois	9/7/06	875	808	92%	804
Kansas	8/1/06	300	299	100%	299
Kentucky	7/26/06	175	174	99%	174
Louisiana	7/1/06	83	83	100%	76
Maine	7/1/06	230	211	92%	211
Maryland	7/1/06	24	24	100%	24
Massachusetts	9/1/06	389	375	96%	344
Michigan	8/26/06	838	737	88%	655
Minnesota	9/1/06	483	423	88%	401
Mississippi	2/12/07	152	152	100%	152
Montana	7/1/06	430	340	79%	333
Nebraska	7/1/06	254	254	100%	252
Nevada	7/1/06	17	17	100%	13
New Jersey	12/29/06	625	496	79%	496
New Mexico	No data	89	89	100%	89
New York	No data	772	741	96%	701
North Carolina	4/1/06	215	176	82%	132
North Dakota	7/1/06	195	178	91%	178
Ohio	7/1/07	943	878	93%	878
Oklahoma	7/19/06	540	540	100%	540
Oregon	7/1/06	197	197	100%	197
South Carolina	7/1/06	85	85	100%	85
South Dakota	7/1/06	168	166	99%	165
Tennessee	12/1/06	136	136	100%	136
Texas	9/1/06	1227	1227	100%	1171
Utah	7/1/06	61	55	90%	55
Vermont	7/1/06	60	58	97%	58
Virginia	7/1/06	132	132	100%	132
Washington	7/1/06	296	286	97%	280
Wisconsin	7/1/06	456	409	90%	409
Wyoming	9/1/06	48	48	100%	48
TOTAL		13,338*	12,032*	90%*	11,407

* Includes data from the 41 SEAs (40 states and DC) that participated in the formula program in Round 5 (FY2006).
The following states opted not to allocate NCLB IID funds through formula awards: Arkansas, Georgia, Idaho, Indiana, Iowa, Missouri, New Hampshire, Pennsylvania, Rhode Island, and West Virginia.

Appendices

Appendix A: NCLB IID Purposes and Goals

NO CHILD LEFT BEHIND TITLE II PART D

SEC. 2402. PURPOSES AND GOALS

(a) PURPOSES: The purposes of this part are the following:

(1) To provide assistance to States and localities for the implementation and support of a comprehensive system that effectively uses technology in elementary schools and secondary schools to improve student academic achievement.

(2) To encourage the establishment or expansion of initiatives, including initiatives involving public-private partnerships, designed to increase access to technology, particularly in schools served by high-need local educational agencies.

(3) To assist States and localities in the acquisition, development, interconnection, implementation, improvement, and maintenance of an effective educational technology infrastructure in a manner that expands access to technology for students (particularly for disadvantaged students) and teachers.

(4) To promote initiatives that provide school teachers, principals, and administrators with the capacity to integrate technology effectively into curricula and instruction that are aligned with challenging State academic content and student academic achievement standards, through such means as high-quality professional development programs.

(5) To enhance the ongoing professional development of teachers, principals, and administrators by providing constant access to training and updated research in teaching and learning through electronic means.

(6) To support the development and utilization of electronic networks and other innovative methods, such as distance learning, of delivering specialized or rigorous academic courses and curricula for students in areas that would not otherwise have access to such courses and curricula, particularly in geographically isolated regions.

(7) To support the rigorous evaluation of programs funded under this part, particularly regarding the impact of such programs on student academic achievement, and ensure that timely information on the results of such evaluations is widely accessible through electronic means.

(8) To support local efforts using technology to promote parent and family involvement in education and communication among students, parents, teachers, principals, and administrators.

(b) GOALS:

(1) PRIMARY GOAL: The primary goal of this part is to improve student academic achievement through the use of technology in elementary schools and secondary schools.

(2) ADDITIONAL GOALS: The additional goals of this part are the following:

(A) To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the 8th grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.

(B) To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by State educational agencies and local educational agencies.

Appendix B: NCLB IID Local Activities

NO CHILD LEFT BEHIND TITLE II PART D

SEC. 2416. LOCAL ACTIVITIES

(a) PROFESSIONAL DEVELOPMENT–

(1) IN GENERAL– A recipient of funds made available under section 2412(a)(2) shall use not less than 25 percent of such funds to provide ongoing, sustained, and intensive, high-quality professional development. The recipient shall provide professional development in the integration of advanced technologies, including emerging technologies, into curricula and instruction and in using those technologies to create new learning environments, such as professional development in the use of technology—

(A) to access data and resources to develop curricula and instructional materials;

(B) to enable teachers—

(i) to use the Internet and other technology to communicate with parents, other teachers, principals, and administrators; and

(ii) to retrieve Internet-based learning resources; and

(C) to lead to improvements in classroom instruction in the core academic subjects, that effectively prepare students to meet challenging State academic content standards, including increasing student technology literacy, and student academic achievement standards.

(2) WAIVERS- Paragraph (1) shall not apply to a recipient of funds made available under section 2412(a)(2) that demonstrates, to the satisfaction of the State educational agency involved, that the recipient already provides ongoing, sustained, and intensive, high-quality professional development that is based on a review of relevant research, to all teachers in core academic subjects in the integration of advanced technologies, including emerging technologies, into curricula and instruction.

(b) OTHER ACTIVITIES- In addition to the activities described in subsection (a), a recipient of funds made available by a State educational agency under section 2412(a)(2) shall use such funds to carry out other activities consistent with this subpart, which may include the following:

(1) Establishing or expanding initiatives, particularly initiatives involving public-private partnerships, designed to increase access to technology for students and teachers, with special emphasis on the access of high-need schools to technology.

(2) Adapting or expanding existing and new applications of technology to enable teachers to increase student academic achievement, including technology literacy—

(A) through the use of teaching practices that are based on a review of relevant research and are designed to prepare students to meet challenging State academic content and student academic achievement standards; and

(B) by the development and utilization of innovative distance learning strategies to deliver specialized or rigorous academic courses and curricula to areas that would not otherwise have access to such courses and curricula.

(3) Acquiring proven and effective courses and curricula that include integrated technology and are designed to help students meet challenging State academic content and student academic achievement standards

(4) Utilizing technology to develop or expand efforts to connect schools and teachers with parents and students to promote meaningful parental involvement, to foster increased communication about curricula, assignments, and assessments between students, parents, and teachers, and to assist parents to understand the technology being applied in their child's education, so that parents are able to reinforce at home the instruction their child receives at school.

(5) Preparing one or more teachers in elementary schools and secondary schools as technology leaders who are provided with the means to serve as experts and train other teachers in the effective use of technology, and providing bonus payments to the technology leaders.

(6) Acquiring, adapting, expanding, implementing, repairing, and maintaining existing and new applications of technology, to support the school reform effort and to improve student academic achievement, including technology literacy.

(7) Acquiring connectivity linkages, resources, and services (including the acquisition of hardware and software and other electronically delivered learning materials) for use by teachers, students, academic counselors, and school library media personnel in the classroom, in academic and college counseling centers, or in school library media centers, in order to improve student academic achievement.

(8) Using technology to collect, manage, and analyze data to inform and enhance teaching and school improvement efforts.

(9) Implementing performance measurement systems to determine the effectiveness of education technology programs funded under this subpart, particularly in determining the extent to which activities funded under this subpart are effective in integrating technology into curricula and instruction, increasing the ability of teachers to teach, and enabling students to meet challenging State academic content and student academic achievement standards.

(10) Developing, enhancing, or implementing information technology courses.