



A Report to the
U.S. Department of Education:

Overview and Synthesis of the
Regional Advisory Committee Reports
On Educational Challenges and Technical Assistance Needs

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Preface

This report was written by Arthur Sheekey, Donald J. Cymrot, and Corbin Fauntleroy from the Education Center at The CNA Corporation (CNAC). The authors received significant assistance from a number of people at CNAC and our partner organizations. Daniel Burke, Linda Cavalluzzo and Robert Berg from CNAC; Betty Hale, Hunter Moorman, Mary Podmostko, and Sharon Brumbaugh from the Institute for Education Leadership; Joseph Harris and Patricia Hagen from The McKenzie Group; and Diane Reed were of invaluable assistance as coordinators of individual regional advisory committees and as thoughtful colleagues in helping to shape this project throughout. Laura Wyshynski and Tara Harrison provided terrific logistical and administrative support as well as first-rate research assistance. David Lopez and Elana Mintz provided comments and ideas for this final report. We would also like to acknowledge the contributions from Matt Cooke and Steve McPherson of IceWEB who developed the RAC website; Mike Shonholtz, our online conferencing representative from InterCall; and Jeff Fissel, technical director at Nortel Network's Kidz Online.

Executive Summary

This report provides an overview and synthesis of the ten Regional Advisory Committee (RAC) reports published concurrently. The RACs were created by the U.S. Secretary of Education to conduct a regional educational needs assessment in advance of the competition for a new set of comprehensive assistance centers and regional education laboratories. The RACs consisted of education stakeholders from state and local education agencies, practitioners, parents, researchers and business leaders. Each of the ten regional committees operated independently but followed a similar framework. The RAC members first identified major challenges to the successful implementation of the *No Child Left Behind (NCLB) Act* and then considered various types of technical assistance that might mitigate the challenges.

The RAC reports indicate that committee members accept the overall vision of NCLB, while recognizing that educational stakeholders across the country need assistance in implementing the Act. In reviewing the challenges described by the RACs, four themes emerge as the keys for supporting implementation:

- *Better integration of and more effective use of existing resources.* Any new set of federally assisted comprehensive centers and laboratories should to be linked more closely both with each other and with state and local education agencies.
- *Making more rigorous use of scientifically based research and data in decision-making.* RAC members accept the idea that making more effective use of research and data can improve the quality of education, but educators need support in identifying quality research and interpreting the findings, putting that research into practice,

filling in gaps in the research with rigorous analytical support, and developing data to make more informed decisions.

- *Need for broader engagement with parents and other stakeholders.* Parents and community organizations could contribute to the performance of school and achievement of children by being more informed and involved in the process of education. Furthermore, parents will have a greater influence on the allocation of resources within education because of the choice provisions of NCLB.
- *Strengthening the capacity of state education agencies.* The success of NCLB relies increasingly on the capability of states to provide technical assistance to local school districts. Expanding the capabilities of state level decision makers and staffs is of central importance for improving the overall quality of the system.

In addition to these themes, seven topical concerns were raised by most or all of the ten RAC reports as areas that could potentially benefit from federally funded technical assistance. These concerns included the following areas. **Teaching quality** encompasses the areas of both professional development and management of the teacher workforce.

Leadership quality covers both school level leadership and the governance structure.

Language diversity and **classroom achievement** relate to the recognition of the growing diversity of the nation's school-age population, and challenges that arise for teachers when there is considerable variation in achievement level among different groups of students.

Unique challenges of rural and urban schools especially in attracting highly qualified staff and in their capacity in managing continuous school improvement is also a frequently cited concern. The **alignment** of statewide standards with assessments, curricula and classroom practice is critical for making all parts of the system work together. Wider use of

technology was cited as both a concern in its own right but also an essential component in addressing several of the challenges cited above.

The final subject covered in the RAC reports was the type of technical assistance that the comprehensive centers and other technical assistance providers could supply to overcome these challenges. The discussions on this subject focused almost exclusively on the standard approaches such as professional development, clearinghouses, and best practices. Although these models have shown success in some cases, the Department may also want to seek new and innovative approaches as it creates the new comprehensive centers.

Introduction

The U.S. Secretary of Education appointed ten Regional Advisory Committees (RACs) to conduct assessments of the education needs in each region of the country. Each of these committees identified the challenges facing educators in its region for improving student achievement and implementing provisions of the *No Child Left Behind Act*. The committees recommended approaches for providing technical assistance that could mitigate these challenges and improve the implementation of NCLB. Each committee completed a report on its region's challenges and technical assistance needs. The purpose of this report is to provide an overview and synthesis of the findings and recommendations of these ten separate RAC reports.

Legislative background

Section 203 of Title II of the Education Sciences Reform Act of 2002 (P.L. 107-279) directs the Secretary of the U.S. Department of Education to establish 20 comprehensive centers with the following goals:

- Provide training, professional development & technical assistance on:
 - Implementation of NCLB
 - Using scientifically valid teaching methods/assessment tools in:
 - The core academic subjects of mathematics, science, and reading or language arts
 - English language acquisition
 - Education technology

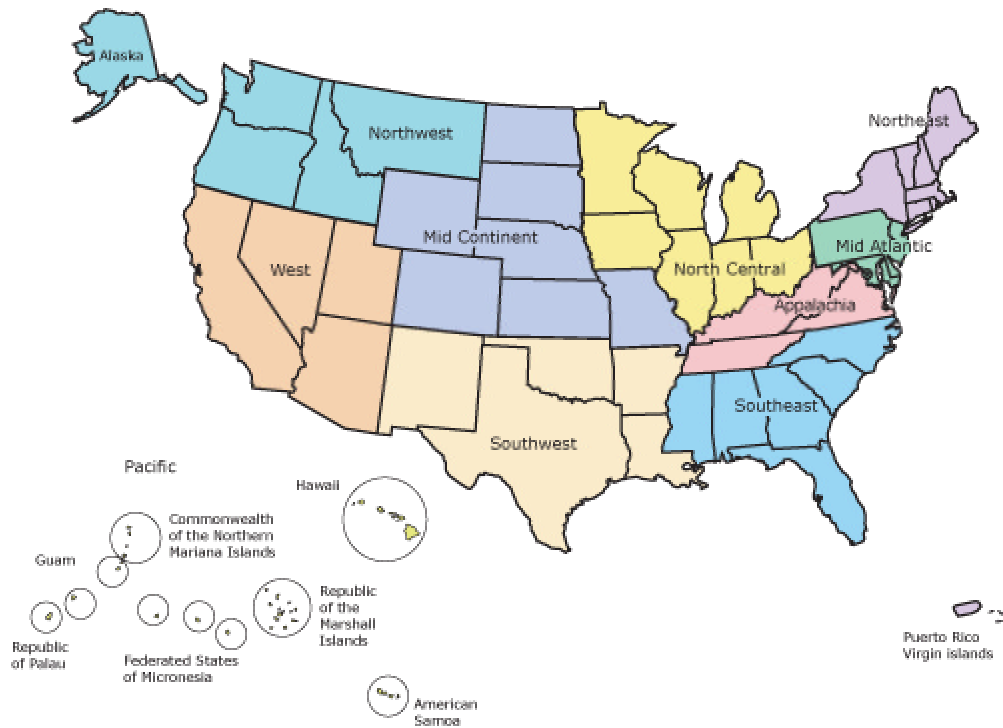
- Facilitate communications among stakeholders including schools, educators, parents, and policymakers within the region
- Disseminate and provide information and publications to:
 - Improve academic achievement
 - Close the achievement gap
 - Encourage sustained school improvement
- Develop teacher and school leader in-service and pre-service training models that illustrate best practices

In addition, these comprehensive centers are expected to coordinate and collaborate with the Regional Education Laboratories, the National Center for Education Evaluation and Regional Assistance, the Office of the Secretary of Education, state service agencies and other technical assistance providers in the region.

In advance of creating these comprehensive centers, the law directs the Secretary to appoint advisory committees for ten education regions. Figure 1 shows a map of the RAC regions. They follow the geographic boundaries of the Regional Education Laboratories. Each advisory committee consists of members from the following stakeholder groups: state education agencies, local education agencies, practitioners, both education and non-education researchers, parents, and the business community.¹ According to the organizing legislation, an individual RAC member is not regarded as a spokesperson for a particular stakeholder group, but rather as a lead person in soliciting the views of members of that stakeholder group.

¹ Appendix A provides the distribution of RAC members by stakeholder group and region.

Figure 1: Map of the Regional Advisory Committee Regions



The Secretary of Education established the RACs as Federal Advisory Committees under the regulations of the Federal Advisory Committee Act (FACA). FACA requires that all deliberations of these committees take place as part of a public meeting. For a public meeting, a majority of the members (or quorum) of the RAC must attend, and the public must have access to the deliberations.

Logistical and administrative support for the RACs

The U.S. Department of Education (ED), Office of Elementary and Secondary Education contracted with The CNA Corporation (Contract no: ED-04-CO-0043) to provide support to the RACs. CNAC, with its partners The McKenzie Group, the Institute of Educational Leadership, IceWEB, InterCall, and Nortel Network's Kidz Online, provided a wide range of support capabilities for the committees. Each RAC had a dedicated support

team that included a coordinator to facilitate the committee meetings and the development of the final report, and a recorder to manage the technology and administrative support. In addition, the CNAC team provided logistical and on-site support for an orientation meeting in December 2004 in Washington, DC and a final report meeting in March 2005 in Houston, TX.

Due to the combination of FACA requirements, the short duration of the deliberations and the wide dispersion of RAC members, much of the work of the RACs was fostered by extensive use of telecommunications technology. A major hub of the process was the RAC website (*www.rac-ed.org*) developed to ease the dissemination of information, gathering of public comments, and registration for public meetings. In addition, the RACs used online conferencing and teleconferencing capabilities to conduct public meetings and to gather input from regional focus groups. The orientation meeting included a webcast of the general sessions and technology training sessions for RAC members unable to attend the meeting in person. A recording of the webcast was made available online for public viewing. Appendix B contains a complete description of the technology used throughout this process and lessons learned.

Public input into the RACs

An important goal of the RACs was to ensure broad and meaningful public participation in the process so that a diversity of views would be considered in defining and articulating technical assistance needs for each region. With this goal in mind, the RACs were encouraged to reach out to a wide range of constituencies. Information about the legislative intent, FACA regulations, project schedule, and opportunities for public participation were disseminated broadly.

National outreach effort

In November 2004, the Department posted a notice in the Federal Register announcing the creation of the RACs, the development of the website and the RAC Orientation Meeting. This notice was then distributed to the education press including *Education Week*, the *Chronicle of Higher Education* and *Education Daily* and to more than 70 national educational associations representing diverse interest groups.² These groups included traditional educational associations, public advocacy organizations, and associations representing children with special needs, schools in rural communities, charter schools, educational research centers or technical assistance providers. The same distribution list also received periodic e-mail notices about on-going activities and upcoming events.

Regional outreach effort

Complementing the national outreach efforts were regional efforts. Each RAC developed its own plan to encourage widespread public involvement within its region. Prior

² A complete listing of these groups is provided in Appendix C.

to the orientation meeting, the CNAC support team developed a list of possible outreach strategies and a set of materials for use by RAC members. These materials included a selected list of open-ended questions³ for the purpose of eliciting responses from different interest subgroups, (i.e., teachers, parents, policymakers, and community activist), brochures describing the RAC process, the schedule, a map of the regions and methods for providing public input. Each RAC member received 100 copies of the brochure for distribution within their region. Copies of the brochure were also made available during several major national meetings of education officials, including the Department of Education's meeting of Title 1 directors. RAC members were also given briefing materials, and other RAC-related materials to use in making contacts with educational organizations and for presentation at professional meetings.

Each RAC report describes the scope and variety of approaches used to engage the public. Generally, individual committee members relied on personal and professional contacts in their state and with associates in local school districts, state education agencies, colleges and universities, research centers, business groups, and with leaders of area interest groups. Several of the RACs convened focus group sessions with teleconference support during the period between the first and second public meetings. The final reports document the fact that most of the committee members received direct input from an abundant number of professional networks and contacts.

Outreach results

Outreach efforts contributed to high-levels of activity on the RAC website. Members of the public interested in posting comments were required to register on the site. As part of

³ To comply with federal regulations, these questions had to be approved by the U.S. Office of Management and Budget.

the registration process, we collected information on the stakeholder group and region of interest. Registration was not required to view comments and information posted on the website. Nearly 3,800 individuals registered on the site. Table 1 shows the distribution of these registrants by region. The largest number of registrants came from the most populous region, the North Central, and the smallest number of registrants came from the least populous region, the Pacific (see appendix D for details). Because the Pacific region has only about a tenth of the population as the next smallest region, the per capita registration from the Pacific region was actually the highest. In terms of stakeholder groups, there was considerable participation by practitioners (i.e., teachers and principals) as well as staffs in both state and local education agencies. Of the stakeholder groups, businesses had the smallest number of participants.

Table 1: Registered users on RAC website

Region	Registered Users
Southeast	432
Southwest	493
West	447
Appalachia	316
Northeast	427
Mid Atlantic	480
Mid Continent	292
North Central	524
Northwest	291
Pacific	72
Total	3,774

* As of February 28, 2005

Table 2 offers other measures of public engagement. The first three columns show the number of public comments received through e-mail, U.S. Postal Service (USPS), and online public discussion forum postings for each region. Comments received through e-mail and USPS were posted online in the public discussion forums. The final column shows the number of times comments were viewed on the website.

Table 2: Measures of public engagement of RACs by region

Region	Public Comments			Viewings
	E-mail	USPS	Website Postings	
Southeast	26		46	1,801
Southwest	7		21	953
West	14	1	43	1,488
Appalachia	12		29	1,186
Northeast	10		33	888
Mid Atlantic	15	3	83	2,019
Mid Continent	3		43	1,378
North Central	10		36	1,323
Northwest	16	4	34	1,406
Pacific	4		26	564
Total	118	8	394	13,006

* As of February 28, 2005

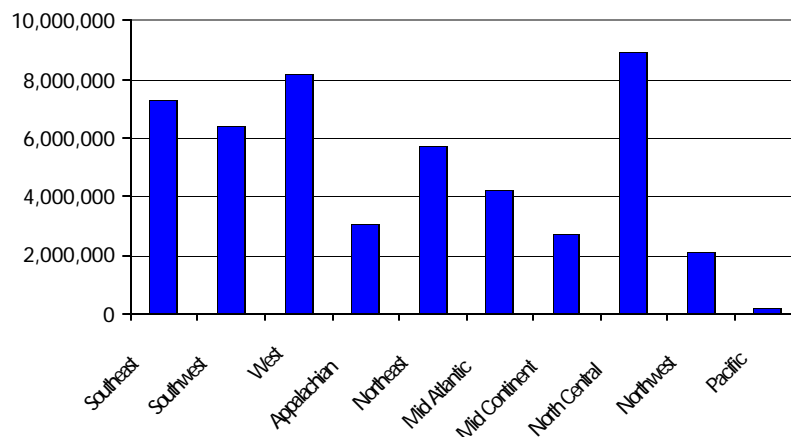
Regional profiles

Each of the RACs was given a regional profile that summarized the overall educational condition of states in within that region. The data were extracted from recent national reports indicating the status of states in addressing goals for improving education. Examining these differences can help identify the causes of regional variation in reported challenges and recommendations.

Education characteristics

Figure 2 shows the degree of variation in the size of the regions as measured by the student populations. The North Central and West regions have more than eight million students each. In contrast the Appalachia, Northwest, and Mid Continent regions each has fewer than half that amount. The Pacific region, which covers Hawaii and six other island groups, has only about 200 thousand students. The variation in student population is only one indicator of differences in needs across the regions.

Figure 2: Student population by region



Source: Common Core of Data SY 2002-2003

Table 3 shows the number of public schools in each region. The number of schools is not roughly proportional to the number of students. For example, even though the North Central and West regions have roughly the same student populations, the North Central region has about 70 percent more schools. These numbers suggest that the North Central region has a much lower number of students per school than the West region. A larger number of small schools are likely to pose a different set of technical assistance challenges than a smaller number of large schools. The table also shows the number of public charter schools and the enrollment within the charter schools. About 40 states currently have charter school laws, and charter schools have existed in some states for over a decade.⁴ Across the country they still represent a relatively small percentage of total school population even in the West region that has the largest percentage of charter school students. As the choice provisions of NCLB become more relevant because of the persistence of schools missing their adequate yearly progress (AYP) goals, charter schools may offer one approach to creating choice.

Table 3: Public and charter schools and enrollment by region

	Public Schools	Charter Schools	Charter Enrollment	Percent of Enrollment
Southeast	11,677	408	93,331	1.3%
Southwest	13,212	317	73,110	1.1%
West	12,333	1,071	259,301	3.2%
Appalachia	5,974	13	1,440	0.0%
Northeast	11,524	126	28,407	0.5%
Mid Atlantic	7,515	212	68,713	1.6%
Mid Continent	7,418	152	40,320	1.5%
North Central	20,630	649	161,096	1.8%
Northwest	5,543	94	10,733	0.5%
Pacific	352	26	3,301	1.6%

Sources: Common Core of Data SY 2002-2003, also see footnote 4

⁴ See <http://www.uscharterschools.org/cs/sp/query/q/1595> for information about the number and enrollments of charter schools by state.

Another factor that can affect technical assistance needs is the characteristics of the students. Table 4 provides two other indicators of needs, the percentage of the student population in Free and Reduced Lunch programs and the percentage of the student population in English Language Learner programs.⁵ The size of the Free and Reduced Lunch Program, which is a measure of poverty and student need, varies considerably across the regions. The regions with above average poverty levels are concentrated on the Pacific Rim and across the south, whereas the Mid Atlantic, Northeast, North Central, Mid Continent, and Appalachia regions have below average poverty levels. However, there is also considerable intra-region variation in poverty that is masked by the regional aggregations. For example, high poverty rates in rural Appalachia are offset by prosperous areas (e.g., northern Virginia) in other parts of the region.

Table 4: Percentage of student population in special programs

Region	Free/ Reduced Lunch	English Language Learners
Southeast	45%	5%
Southwest	49%	12%
West	42%	23%
Appalachia	30%	2%
Northeast	21%	5%
Mid Atlantic	30%	2%
Mid Continent	33%	5%
North Central	31%	4%
Northwest	38%	8%
Pacific	44%	7%
National Average	36%	7%

Source: Common Core of Data SY 2002-2003

The English Language Learner program has its highest concentration in the Southwest and West (12 percent and 23 percent respectively). A majority of the regions (6 of

⁵ A third potential indicator, the special education population, shows little variation across the regions.

the 10) are at or near the national average of seven percent English language learners (ELL). The Appalachian and Mid-Atlantic regions have a very small proportion of ELL (2 percent) compared to the other regions. This regional variation underscores the challenge of providing technical assistance on a national level. That is, the Appalachian and Mid-Atlantic regions are likely to have a relatively low demand for technical assistance in languages other than English; while the West and Southwest are likely to have a relatively high demand.

Several of the RACs commented that the distribution of the population within their region had a significant bearing in determining technical assistance needs. Widely dispersed populations may be more difficult to reach and therefore require different approaches to technical assistance from compact populations. Table 5 shows two different types of measures of population dispersion, density or number of people per square mile, and clustering. The Census includes four clustering categories, urban area (includes cities and towns of more than 50,000), urban cluster (includes towns and villages between 2,500 and 50,000), rural farm and rural non-farm. Density captures a measure of distances between population groups, while the clustering captures whether the population is grouped into larger aggregates. These two measures do not necessarily move in sequence. For example, the West region, which has a moderate level of population density, has a higher proportion of the population in urban areas than either the densely populated Northeast and Mid Atlantic regions.

Table 5: Population dispersion by region

Region	Density	Urban		Rural	
		Area	Cluster	Farm	Non-Farm
Southeast	196	62%	10%	1%	27%
Southwest	75	62%	15%	1%	22%
West	181	86%	7%	<.5%	6%
Appalachia	141	52%	11%	2%	35%
Northeast*	503	79%	6%	<.5%	15%
Mid Atlantic	789	78%	7%	<.5%	15%
Mid Continent	49	55%	17%	3%	25%
North Central	184	64%	13%	2%	22%
Northwest	57	64%	17%	2%	24%
Pacific*	191	69%	23%	<.5%	<.5%

Sources: American Community Survey 2003, U.S. Census Bureau

* These data only include states and not territories or other entities within the region.

Appendix E includes additional information about the regions that could provide more insights into differences among RAC needs and recommendations.

Overview of the RAC reports

In this section, we synthesize the results from the deliberations of the ten Regional Advisory Committees. The ten committees operated independently with only minimal direction from the U.S. Department of Education. The Department provided the committees with the legislative language and intent. In the beginning of the process, the RACs were asked to identify major challenges relating to the implementation of NCLB. Having identified a series of challenges, the RACs then discussed how federally sponsored technical assistance could mitigate those challenges.

The reports indicate that committee members accept the overall vision of NCLB, while recognizing that educational stakeholders across the country need assistance in implementing the Act. The critical assistance that the committees identified falls into three categories.

- *Teaching and learning*—The role of practitioners in improving the quality of classroom instruction. Better support is needed in making more informed decisions that affect classroom activities contributing to student achievement.
- *Managing the process of continuous improvement*—The activities of the state and local education agencies in guiding systemic reform. Under NCLB, states take the lead in setting the framework (e.g., standards and assessments), while local agencies are responsible for the implementation of the programs meeting the framework.
- *Communicating across the broader community of stakeholders*—The creation of a larger support network could contribute to increasing student achievement. Improving

communications across all stakeholders will require making parents, community groups, and business leaders a more integral part of the education team.

In the remainder of this report we synthesize the challenges and technical assistance support discussed in the RAC reports. Although each of the RACs approached its task in its own way, we identified several major themes that cut across these reports. In the following discussion, we describe these themes, provide a detailed discussion of challenges that appear throughout the majority of RACs, and summarize suggestions for technical assistance.

Crosscutting themes

Four general themes appear in the RAC reports. The purpose of identifying these themes is to provide a broader context for understanding the perceived challenges and needs for technical assistance across the regions.

Better integration and more effective use of existing resources

Although many RAC members and the public might wish that the federal government could invest more dollars in education, they recognize that the first step is to make more effective use of existing resources. Many RAC members admitted having limited knowledge of the extent of services and support provided by existing centers and laboratories. For example, the RAC reports contain little discussion on improving mathematics and science teaching in spite of ED's investment of nearly \$15 million a year since 1992 on Eisenhower Mathematics and Science Consortia. There are several possible explanations for this lack of awareness of the existing institutions. Some RAC members, such as parents or classroom teachers, may not be in positions that could make direct use of the service of these institutions. It is possible that some classroom teachers take advantage of

services from these existing centers but simply are not aware of the source of the material and do not associate them with these existing institutions.

Another explanation might be that the scope and mission of existing institutions may not address certain needs of some RAC members because of resource constraints. In the past, stakeholders have been impacted by the resource constraints of existing institutions and are likely to face the same constraints in the future. As a result, some services sought by stakeholders may not get funded.

A final possible explanation is that the existing institutions may not be doing an effective job of disseminating the information and products that they have developed. This is an issue that could potentially be addressed in the creation of these new centers. RAC members are recommending greater integration of the activities of these new institutions. They speak of strategic alliances, integrated networks and joint ventures as an overall approach to improvement in the provision of services. For example, the Mid Atlantic RAC recommends, “the Federal Government [should] establish a network of technical assistance centers that are strategically linked to help stakeholders meet all of these key challenges. This network should be linked with other technical assistance providers as well as federal, state, and local agencies, and other stakeholder groups.”

Making rigorous use of scientifically based research and data in decision making

Many RAC members have had little or no exposure to scientifically based research. Yet, because of its prominent role in NCLB and other education legislation, they want to take advantage of this type of research. Given the general lack of expertise in this area among education practitioners and policymakers, assistance is needed in answering a series of questions about scientifically based research:

- What distinguishes good research from bad research?

- How can research be applied to improve classroom practice or curriculum choice?
- What can practitioners or policymakers do in the absence of good research?
- How can decision-makers make more effective use of data in general?

Many RAC members know that ED already supplies guidance on distinguishing between good and bad research through a variety of publications from the Department directly and through such institutions as the *What Works Clearinghouse*. ED has articulated very clearly its quality standards for research, but this type of information may not be readily accessible to many stakeholders within the education community. The inaccessibility could be the result of faulty dissemination or the inability of laymen to make productive use of highly technical materials even when these materials are directed at the non-technical audience. A potential role for the new network of comprehensive assistance centers could be to help stakeholders distinguish between good and bad research design and execution.

Even if practitioners are able to distinguish good and bad research, they often face the challenge of not knowing how to implement the lessons learned from research. The laboratory conditions of high quality research rarely match the facts on the ground in a particular school or classroom. The comprehensive assistance centers should play a role in helping practitioners implement the results of high quality research to the specific circumstances and populations within a school or classroom.

The myriad decisions that are made by policymakers and practitioners every day within education dwarfs the amount of high quality research available to inform these decisions. To date, the *What Works Clearinghouse* has identified quality research only on middle school mathematics programs. Although reviews of a number of other topic areas are

ongoing, the output of the *Clearinghouse* is unlikely to catch up with the full range of topics faced by education decision-makers. Furthermore, the focus of the *What Works Clearinghouse* is on identifying quality research in the fields of teaching and learning, and not on managing the process of continuous improvement or on developing effective communication strategies among stakeholders. ED has created other clearinghouses (e.g., *National Comprehensive School Reform Clearinghouse*) to assist educators, but these institutions also have limited resources and thus can only provide limited services across the broad range of questions. Educators are likely to face many decisions for which there exists no high quality research. The new centers could provide assistance in improving the quality of the decision making process even in the absence of existing research.

The final question is how to make more effective use of data in education decisions. Every RAC identified the use of the data as one of the key challenges. There is a growing sector of firms and institutions trying to help educators make more effective use of data. The role of the comprehensive centers should not be to replicate those offerings, but rather to service as an honest broker for educators in identifying the characteristics of effective data systems and products.

Broader engagement of parents and other stakeholders

Another universal challenge identified by the RACs is the need to for greater involvement by parents and other members of the community. The need for greater involvement actually comes from two different directions. First, parents and community organizations are an asset that can be used to improve the quality of education. Increasing their knowledge about their schools and their children's education should contribute to an improvement in outcomes. Second, the choice provisions within NCLB gives parents, and

perhaps communities, a more explicit role in resource allocation within education and so increasing their involvement is a requirement to make them more effective decision-makers.

A number of the RACs explicitly identified the importance of greater engagement by parents to improve the quality of education. For example, the Northwest RAC asserts that “[f]amily involvement is known to play a critical role in effective schooling.” Children are in classes less than half their waking hours during the school years. Problems from the outside the classroom can negatively effect children’s education. Greater engagement by parents and community organizations can lead to a number of improvements including greater continuity in the educational messages and improved problem solving to help remove impediments to learning.

The role of parents as consumers of the choice provisions of NCLB was not widely cited, but it does show up in a number of the reports. One of the reasons for the relatively scant mention may well be that the choice provisions are not in full operation under the NCLB schedule, and therefore many stakeholders participating in the RACs may not be fully aware of the implications of these provisions. Nonetheless there is recognition that stakeholders at all levels will need to make decisions about the quality of alternative school programs and supplemental education services. As choice provisions become better understood, it seems likely that potential providers of these opportunities will require technical assistance. The Mid Atlantic report discusses the problem of creating choice in districts with few options; either because the number of schools in total or the number of schools not under AYP sanctions is small. A number of avenues are potentially available for creating such choice, including a school within a school, inter-district agreements, charter schools or virtual schools.

The RACs envision the comprehensive centers playing a significant role in supporting communications among parents, other stakeholders, and the schools. They also see a role for the centers in fostering greater and better-informed choice within the context of NCLB.

Strengthening the capacity of state education agencies

NCLB assigns states a major role in creating and sustaining an infrastructure that provides technical assistance to schools identified as *in need of improvement*. Strengthening the organizational capacity of states and local school districts is an implicit theme that cuts across most recommendations. The RACs understood that a regional comprehensive center could have a larger impact on the performance of schools and students by supplementing the statewide infrastructure. Several RACs held the position that technical assistance was needed to help states to more effectively integrate school improvement strategies. There appeared to be a general agreement among RAC members that a region's SEAs needed to be involved early on in the determination of priorities for delivering technical assistance within their state.

RAC members recognized the fact that the resources available at a given comprehensive center would be limited, and a center's funds should be used as a leverage to promote inter-state collaboration. The need to promote state and regional collaboration was highlighted by most RACs. Throughout many of the RACs deliberations and in several of their final recommendations, the need to strengthen the organizational capacity of states and local school districts was emphasized. Many RAC members maintained that educational officials, at all levels of government, need greater technical support in making decisions based on research and a careful analysis of data.

General discussions relating to the implementation of NCLB and the steady stream of public comments directed to the RAC website indicate that most state education agencies do not have sufficient capacity to carry out several key provisions of the Act. State officials who participated in the RAC process admitted that their agencies simply did not have the expertise and resources to bring about the required reforms. Stimulating and sustaining improvements among the large numbers of low-performing schools and students in their state was often cited as one of the challenges of NCLB. State and school district officials appeared pleased that student achievement is on the rise and the traditional achievement gap is closing, but they also admitted that they have a long way to go.

Common regional challenges

The purpose this section is to move beyond the general themes listed above to more specific challenges. Not all of the challenges listed below are in all the RAC reports, and not all of the challenges listed in the RAC reports are listed below. However, these challenges appear most frequently throughout the reports. The complete list of challenges for each region can be found in that region's report.

Teaching quality

All of the RACs cite improving teaching quality as a key challenge, although different aspects of teaching quality are called attention to in the ten reports. Some of the RACs emphasize the role of professional development in improving the knowledge and skill level of existing teachers. Others focus more on the management of the teacher workforce including recruitment, induction, and retention programs, raising the professional status of teachers, and improving working conditions.

Leadership quality

Most of the RACs make reference to leadership issues as major challenges in their region. As in the case of teachers, some of the RACs focus on recruiting, retention and professional development of school level leaders. Others, however, have a broader perspective. They extend the scope of leadership to the quality of governance and systems of governance with in districts, intermediate units, and even state agencies.

Language diversity

Most of the reports express concerns about problems with materials and practices related to English language learners. RAC members conceded that schools with significant numbers of ELL students are having a difficult time meeting their AYP targets. Interestingly, even in some regions where the current ELL population is still relatively small (e.g., Appalachia or Mid Atlantic), the upward trends in the size of this population are viewed as an upcoming challenge. Given that greater engagement with the community is one of the major themes of these reports, several of the RACs identified the need to ensure that materials provided to parents and community agencies are language accessible and culturally sensitive.

Classroom achievement

In some classrooms, teachers face the problem of dealing with a wide distribution of achievement and academic capabilities. Sometimes this issue is expressed as the achievement gap between different sub-groups of the student population, and many of the RACs recognize the importance of finding methods to overcome this gap. But, the conventional achievement gap captures only part of the problem. This distribution can come about when a multiplicity of achievement levels is placed in the same class. RAC members are not trying

to second-guess this strategy, but rather they seem to believe that teachers need special training and ongoing support to deal with this situation.

Unique challenges of rural and urban schools

The RACs believe that these districts face a variety of challenges that pose special problems for their students. The most commonly mentioned is recruiting and retaining high-quality teachers into schools having a high number of low-performing students or schools in low-income areas. These districts often have limited course offerings, particularly in mathematics and science. To overcome these challenges, RAC members believe that states and districts need to undertake creative personnel programs and policies and to make more effective use of technology and other resources.

Alignment

The RACs supported the idea that states needed support in aligning their educational performance standards, instruction, curriculum, and assessments. For example, the Northeast RAC stated, “Technical assistance centers could help promote alignment of curriculum, standards, and means of assessment, within states and regions and across grade levels, from early childhood programs all the way through to higher education.” In addition to the content of educational materials, the RACs also argued for alignment of policies and practices within the state and federal system to ensure that the elements of an education program are internally coherent and consistent and integrated up and down the system.

The role of technology

The treatment of technology varied markedly across the RAC reports. In general, the RACs acknowledged the prospects of making wider use of advanced telecommunications technologies to provide useful information and support services for teachers, students, and

parents. As they saw technology advancing, they expressed a concern that the *digital divide* could continue to persist. Several RACs identified areas where enhanced technological capability could help students, teachers, and principals connect with their counterparts in other areas of the country, as well as provide resources such as research-based models of effective programs and curricula and online courses.

Increased availability of high-quality distant and web-based educational services were seen as critical to the improvement of schools; particularly, for bring resources to rural and isolated areas. The Internet was viewed as an effective means to deliver educational programs, for improving linkages between researchers and practitioners, and for disseminating information about proven practices to teachers. The Pacific RAC cited the potential of telecommunications networks to: “Identify and disseminate information on online courses to help teachers and paraprofessionals [to] meet local certification requirements and subsidize those courses in geographically remote areas.” The report urged the creation of a national center that would focus on “the integration of technology across all content areas and how to use it to improve student learning.” Other reports recognized the potential of telecommunications-based services as a more cost effective means of delivering technical assistance.

Technical Assistance Needs

This section summarizes and describes the types of technical assistance that appear in the RAC reports. It is organized by the functions and/or services to be provided by the comprehensive centers. The RACs identified four common areas of technical assistance needs:

- Professional development

- Best practices
- Clearinghouse function
- Facilitate communication among stakeholders

Professional development

All ten RACs want the centers to design and provide professional programs. Though each RAC had some region-specific needs, some common themes emerged regarding the types of professional development the RACs would like the comprehensive centers to provide at all levels of education from practitioners through state agency officials. Almost all RACs indicated that they would like the centers to provide training in scientific literacy, that is, in research design and analysis with a specific focus on random control treatment studies. The goal of this training is to make the stakeholders better consumers of research and not to make them into researchers. The outcome of such training would allow practitioners to better translate research into practice.

The RACs also indicated that they would like specific professional development on identifying and implementing best practices on all the specific regional challenges described in the previous section (e.g., teaching quality, classroom diversity).

Best Practices

Although the mission of a comprehensive center will not likely include undertaken scientific experimentation and basic research, the RAC members would like them to conduct some very applied research by seeking to uncover information about best practices. The centers could cull the scientific literature for evidence on programs that work, and then analyzing how these programs might get exported to other sites or circumstances. The focus

of this effort is not the discovery of new knowledge but the application of existing knowledge to new circumstances.

Clearinghouse function

The RACs recommended that the comprehensive centers provide a clearinghouse function covering a variety of topics. The majority of the RACs indicated interest in summaries of relevant literature, particularly random assignment studies, and abstracts including information on the methodology, sample, and an assessment of whether the findings have more general applicability. The topics of interest include:

- Effective teaching
- Special populations, including English language learners and low-income children
- Impact of relevant policy initiatives
- Remediating low performing schools
- Improving parental involvement and its relationship to student achievement
- Information related to NCLB and other federal and state programs

Facilitate communication among stakeholders

An important technical assistance need common to the ten RACs was the role the comprehensive centers would play in facilitating communication between all relevant stakeholders. The centers were seen as integral in engaging parents in the educational enterprise. For example, several RACs suggested that the comprehensive centers play a role in creating public service announcements touting the role that parental involvement plays in enhancing student achievement. They also felt that the comprehensive centers could play an important role in community outreach, and in building partnerships with community organizations.

Final Thoughts

This report brings to a conclusion the activities of the Secretary of Education's Regional Advisory Committees for Educational Needs Assessment. Each of the ten RACs produced its own report identifying the key challenges for the implementation of *No Child Left Behind* and offering suggestions about technical assistance to mitigate these challenges. The CNA Corporation has supported this effort throughout, and this overview report presents our synthesis of these ten reports. We conclude this effort with some final observations about both the operations of the process and the content of the reports.

- This effort has demonstrated that it is possible to conduct a nationwide assessment of an important public policy matter generating widespread public interest and input within a tight deadline and limited budget. Key enablers in this project were the combination of modern telecommunications technology and a supporting staff of subject matter experts and analysts. In light of the extensive use of technology by the RACs, there was concern that the committees would have difficulty following the regulations of the Federal Advisory Committee Act. This was not the case. The RACs were able to successfully complete their task even though much of their work was conducted online.
- Another major factor in the success of this project was the dedication of the RAC members. Many volunteered their time in order to participate in this process because they wanted to share their personal knowledge and experiences about the challenges they face in implementing NCLB. They also were willing to reach out to other stakeholders to expand the context available to the

committees during their deliberation. The result of these efforts was a series of useful insights about both the nature of the challenges and the specific areas of concern.

- Discussions within the committees focused primarily on the challenges, and much less time was spent developing solution strategies. This approach adhered to the legislative mandate to “assess the educational needs within the region they served.” Deliberations in the committees, and the vast majority of comments from the public, emphasized needs (e.g., more resources, more professional development, more and better information about proven practices). The committee members represented consumers of technical assistance services and, thus, they were less prepared to devise technical assistance that would effectively address the particular and critical challenges in their region.

The RACs fulfilled their mission in providing the U.S. Department of Education with the fundamental educational challenges that can only be overcome with collaborative efforts of all education stakeholders. The collective advice of the Regional Advisory Committee members represents an important source of information, as the nation moves forward toward the goal of improving the achievement of all students.

Appendix A: Committee membership by region and stakeholder role

	Business	Higher Ed	LEA	Policy-maker	Parent	Researcher	SEA	Practicing Educator	Total
Southeast	1	0	5	0	1	1	6	3	17
Southwest	0	1	3	0	1	0	5	3	13
West	0	1	5	0	1	0	4	2	13
Appalachia	0	0	3	0	1	1	4	2	11
Northeast	0	1	4	0	1	0	8	5	19
Mid Atlantic	1	0	2	1	2	1	5	4	16
Mid Continent	0	0	5	0	2	1	7	4	19
North Central	1	0	7	0	1	1	7	5	22
Northwest	0	0	3	0	1	1	5	3	13
Pacific	0	1	1	0	1	0	4	4	11
Total	3	4	38	1	12	6	55	35	154

* As of February 28, 2005

Appendix B: Technology support for the Regional Advisory Committees

The timeline for the regional advisory committees was very aggressive and public input was a necessary requirement for committee deliberations. CNAC and ED decided to use technology to facilitate public input. Through online conferencing, webcasting, and development of a website, the CNAC team was able to provide greater opportunities for the public to provide comments to the committees than on-site regional public meetings alone.

RAC website

One of important tool was a RAC website (*www.rac-ed.org*), developed by IceWEB.

The website was designed to:

- Provide a central information repository for both RAC members and the public
- Collect public input through online bulletin boards (public forums)
- Provide notification of RAC meetings
- Provide RAC members a way to review drafts of the final report

Working in collaboration with the U.S. Department of Education, the website was designed to allow each RAC to maintain an activity calendar, public discussion forums, and a library of regional resources. Members of the public could view information in all of these areas. The website also allowed members of the public to register in a region. Registered users were able to post comments to the public forums and register for public meetings on a space-available basis.

In addition to the public areas, two additional RAC member-only areas were available to committee members: document review and RAC member information. The document review section allowed RAC members to download drafts of the report and provide comments to the regional coordinator. Each RAC had a member list located in their resource library containing the names and affiliations of the members. The RAC member information page provided additional contact information on committee members in order for the committee chair or regional coordinator to contact them. This information was not made public.

The Content Administrator of the website had the ability to send targeted e-mails to registered users. This allowed the RAC Support Team to notify registered users of new information available on the website in their region of interest and when public meeting registration became available. The function was very helpful in initiating public response to posted information.

Lessons learned

The U.S. Department of Education had not used a website as a method of collecting public input for an advisory committee before. There were several iterations of the site as we learned what would best encourage public participation online. The following lessons were learned in this project.

- Initially, only three topics were to be posted in the public forum. Each topic corresponded to specific areas of RAC deliberation. In practice, this did not work very well. Online bulletin boards operate in a manner similar to a physical bulletin board. The owner can post a flyer, but others seeing the bulletin board will want to post their own flyers. We found that the number of comments

posted in the forums increased when the number of topics posted grew larger. Online bulletin boards provide a sense of anonymity when there are numerous postings, encouraging people to post messages. When the number of topics was limited to a small number, people were reluctant to post.

- The most successful approach to initiating public input was pushing information out through the bulk e-mail function. We would see significant increases in the number of views/comments when an e-mail would go out to a region notifying registered users that new information was available for comment. The same thing occurred when notifications of upcoming public meetings were sent out. While registration was available online 15 days before the meeting, a bulk e-mail would be sent out to registered users of a region one week prior to the meeting. As a result, the space available for the public meeting would fill up quickly for most of the RACs.
- The RAC member-only areas worked well. RAC members frequently used the website to share and download information.
- A website requires significant amounts of time for maintaining the information, managing user lists, and responding to user issues. The RAC Support Team tried to respond to user questions within 24 hours. Frequently Asked Questions (FAQs) were developed and posted to help users access the site. When possible, the RAC Support Team would research problem areas and provide additional support to users.

Online public meetings

In order to reduce the travel requirements for RAC members, an online conferencing capability was provided by InterCall. This capability not only let us bring RAC members together for a meeting, but it also allowed public members who would not have the ability to travel outside the local area to observe the proceedings. There was some concern that rural areas may not be able to access the online meetings, but it was determined that the public could gain access through their local schools and libraries and link to the public meetings. We have anecdotal evidence that were instances where one registration was used for group attendance in a meeting room.

RAC members were provided group training for the online conferencing at the orientation meeting and one-on-one training just prior to the first public meeting. InterCall representatives worked directly with the members to ensure that their computer was setup properly and would troubleshoot problems that occurred during the public meetings. By the final public meeting, committee members were proficient enough that the number of virtual attendees was greater than at the orientation meeting.

Using this type of technology was a risk for ED. There was concern that while RAC members would be trained to use the system, the public would have no training and wouldn't be able to access the meeting. To mitigate the problem we provided all public meeting registrants with:

- An InterCall website for testing system compatibility prior to the meeting
- Dedicated help desk support during the public meeting
- Follow-up e-mails to identify problems that could be corrected before the next public meeting

Lessons learned

This was one of the first times that a federal public meeting was held online. ED felt that the meetings were successful and we saw significant public participation. We learned many lessons.

- The RAC recorders were given specialized training and access to an InterCall representative for the online conferences. The training they received was a prime factor in the success of the public meetings. InterCall had a dedicated operator for each public meeting that would greet each RAC member and ensure only RAC members could participate in the call. The operator worked closely with the recorder to keep members informed as to when the meeting started and, in the case of the Pacific RAC, linked in the international participants.
- The RAC members were diligent about attending training sessions prior to the first public meeting. The InterCall representative gave follow-up calls to committee members that were not able to connect. The public was not as good about running system compatibility checks prior to a public meeting. For the first thirty minutes of every meeting, the RAC Support Team was troubleshooting public user problems. Between the first and second set of public meetings, an online conferencing FAQ was developed and sent out to registered attendees. This seemed to alleviate many of the problems people were experiencing.
- Internet traffic must be considered when scheduling meetings. Significant lag time can occur if meetings are scheduled during peak Internet periods. This can become very distracting for the viewer, especially if real-time changes are occurring on the screen. Lag time would also affect the web-based audio component and public attendees would think they had been disconnected.

- Due to software constraints, public users had two links they had to initiate—an audio link and a presentation link. This caused some confusion with less computer-literate public members. A recent software update for the online conferencing software will correct this problem if this capability is used for future public meetings.
- The public did not have a good understanding of the regulations applicable to these meetings under the Federal Advisory Committee Act. They were not aware that they could not participate in committee discussions or provide public feedback during public meetings, but only observe the discussion. We saw significant drop-off in attendance due to that fact at the second public meeting. A decision had been made to deactivate the Q&A feature of the online conference window because it was felt that RAC members might feel compelled to address issues that were appearing on their screens. In retrospect, it would have been better to allow the public to use this a way to provide input to the committee for consideration after the meeting.

Webcast of orientation meeting

A major portion of the orientation meeting in December was conducted in general session. Not all RAC members were available to attend the orientation meeting in person. To ensure that all members could receive the same guidance, CNAC decided to use webcasting, provided by Nortel Network's Kidz Online, as the method for providing access to the general sessions to off-site participants. Questions from off-site participants were captured and provided to the speakers during the sessions for a response.

After the meeting, a recording of the webcast was posted the RAC website for the public to view. The orientation meeting included training for website and online conferencing capabilities and the webcast recording provided a means for the participants to review the training at their convenience.

Appendix C: National organizations contacted

The following national educational organizations were contacted on behalf of the RACs by The CNA Corporation for input on the technical assistance needs of schools.

Administrator and Supervisors

National Association of Secondary School Principals (NASSP)
National Association of Elementary School Principals (NAESP)
Association of Supervision and Curriculum Development (ASCD)
Association of Educational Service Agencies (AESA)
National Association of Federal Education Program Administrators (NAFEPA)

State-Associated Organizations

Education Commission of the States (ECS)
National Association of State Boards of Education (NASBE)
National Governors Association (NGA)
National Conference of State Legislatures (NCSL)
Education Leaders Council (ELC)
Achieve
Appalachian Regional Commission (ARC)
Education Commission of the States (ECS)
National Association of State Boards of Education
The Pew Charitable Trusts

Teacher Organizations

American Federation of Teachers (AFT)
National Education Association (NEA)

Teacher Training and Improvement

American Association of (AACTE)
American Board for Certification of Teacher Excellence
Center for Study of Teaching and Policy
Center for Future of Teaching and Learning
National Commission for Teaching and America's Future
National Council on Teacher Quality
Teacher Advancement Program, Milken Family Foundation

Local Education Agencies/Communities

National School Boards Association (NSBA)

Council of Great City Schools – Urban Schools
Center for Policy Studies in Rural Education (CPSRE) – Rural Schools
National Rural Education Association (NREA) – Rural Schools
US Conference of Mayors
National School Boards Association (NSBA)
Center for Policy Studies in Rural Education (CPSRE)

Non-Public Schools

National Catholic Education Association (NCEA)
National Association of Independent Schools (NAIS)
US Charter Schools
National Charter School Clearinghouse
Council for American Private Education
Charter Schools

Independent Education Policy and Research Organizations

American Educational Research Association (AERA)
State and Regional Research Associations
Consortium for Policy Research in Education (CPRE)
The Education Trust
Institute for Educational Leadership (IEL)
Center for Education Policy
Rural Policy Research Institute (RUPRI)
The Education Gadfly
Weekly News and Analysis
Thomas B. Fordham Foundation
Staff of the Progressive Policy Institute
Weekly Online Bulletin
Public Agenda
National Center for Urban Partnerships

Advocacy/Public Interest

Public Education Network (PEN)
Center for Education Reform
Alliance for Excellent Education
National Coalition for Parent Involvement in Education
National PTA
Partnership for Learning
Education Daily Online News
Alexis de Tocqueville Institution
Education News.org
Education Writers Association
ED Daily
Education Week
Public Education Network (PEN)

Organizations Representing Minorities/Minority Interests

National Alliance of Black School Educators (NABSE)

Educational Technology

ISTE
Consortium for School Networking (COSN)
Benton Foundation
e-School Weekly News Online

English Language Learners and Achievement/Hispanic

National Association for Bilingual Education
National Council of La Raza

Special Education

Council for Exceptional Children (CEC)

Business and Industry

The Business Roundtable
National Alliance of Business (NAB)

Appendix D: Number of registered public users of website by stakeholder role

Stakeholder Region	Stakeholder Role										Grand Total
	Business	Inst. of Higher Ed.	Local Ed. Agency	Other	Parent	Principal	Researcher	School Board Member	State Ed. Agency	Teacher	
Southeast	6	39	67	61	35	15	21	12	64	112	432
Southwest	4	25	96	78	24	33	21		63	149	493
West	12	21	128	60	30	27	24	4	71	70	447
Appalachia	3	13	70	52	19	27	13	2	69	48	316
Northeast	10	35	56	86	30	27	18	22	55	88	427
Mid Atlantic	12	13	109	80	36	35	19	7	98	71	480
Mid Continent	3	14	55	45	10	32	2	6	72	53	292
North Central	10	35	102	100	24	47	14	2	85	105	524
Northwest	1	13	49	40	13	37	15	4	48	71	291
Pacific	1	13	1	6	1	6	3		33	8	72
Grand Total	62	221	733	608	222	286	150	59	658	775	3,774

Appendix E: Additional regional profile information

Achievement and attainment

The prime goal of NCLB, and therefore the comprehensive technical assistance centers, is to improve student achievement and academic attainment. The most comprehensive national assessment of educational achievement is the *National Assessment of Educational Assessment (NAEP)*. This test is given annually to a sample of students in fourth and eighth grade across the country. Student scores performance are assessed at various levels of basic, proficient and advanced. Table E-1 below shows the percentage of the white students in a particular region achieving a rating of proficient on the Reading and Math exams in both fourth and eighth grade. Because these scores represent only white students, no further adjustment need be made for race/ethnic differences in the student populations. White students in the Mid Atlantic region were most likely to achieve the proficient rating on both the Reading and Math tests. White students in the Pacific region were least likely to score proficient on these scores. Across the board, eighth grade scores are at or below the level of the fourth grade scores, but because these represent different cohorts of students, the drop in scores does not necessarily mean that individual students are increasingly falling behind.

Table E-1: NAEP scores for white students by region

	Reading		Math	
	4th Grade Proficient	8 th Grade Proficient	4th Grade Proficient	8th Grade Proficient
Southeast	39	36	42	34
Southwest	37	37	44	34
West	35	34	41	33
Appalachian	37	37	34	31
Northeast	42	42	41	38
Mid Atlantic	44	40	47	38
Mid Continent	40	40	40	37
North Central	40	40	43	38
Northwest	36	36	38	36
Pacific	30	27	30	22
National Average	38	37	40	34

Source: National Assessment of Educational Progress (NAEP): 2003

One of the longstanding concerns in student achievement is the significant gap between white and minority students. Table E-2 shows the reported achievement gap between white and black, and between white and Hispanic students. Achievement gaps are not reported for all states because in some states the minority subpopulations are too small to provide statistically reliable results. Nonetheless, the table shows that in almost all cases there is a substantial gap in the scores between white and minority students in all regions. The size of the gap is actually smaller in the Pacific region than in the other regions, but this is not necessarily encouraging because the achievement level for white students in this region is below that of the other regions.

Table E-2: Achievement gap by race

	Reading				Math			
	4th Grade		8 th Grade		4th Grade		8th Grade	
	White-Black	White-Hispanic	White-Black	White-Hispanic	White-Black	White-Hispanic	White-Black	White-Hispanic
Southeast	27	16	25	15	33	18	27	15
Southwest	23	19	24	20	32	23	27	20
West	23	26	20	23	30	30	26	25
Appalachian	23	11	24	5	25	15	23	9
Northeast	28	26	26	25	28	27	27	24
Mid Atlantic	33	28	27	19	37	31	32	27
Mid Continent	22	16	25	15	27	25	26	16
North Central	28	21	28	18	34	28	31	25
Northwest	12	19	14	18	17	21	18	20
Pacific	15	16		3	17	16	0	8

Source: National Assessment of Educational Progress (NAEP): 2003

In addition to achievement, the success of the education system in a region can be assessed by examining measures of educational attainment. The NAEP reports on two such measures, high school graduation rate and “chance for college.” Table E-3 shows these measures by region. The Mid Atlantic, Mid Continent and North Central regions score the highest on both of these measures. The Southwest, Northeast and Pacific regions have the lowest graduation rates and are near the bottom on “chance for college.”

Table E-3: Measures of educational attainment

	High School Graduation ¹	"Chance for College" ¹
Southeast	59	34
Southwest	69	33
West	68	32
Appalachian	70	37
Northeast	61	36
Mid Atlantic	78	45
Mid Continent	75	42
North Central	77	43
Northwest	69	33
Pacific	61	33

¹For 2001

Source: NAEP

Ensuring that each classroom has a high-quality teacher is one of the centerpieces of NCLB and improving teacher quality is one of the focus areas for the comprehensive centers. Table E-4 provides some broad indicators of teacher quality. The first column shows the number of teachers in the region, and the second column shows the median teacher salary in each region. The median salary varies considerably across regions. The median salary may not be a good indicator of teacher quality because the ability to attract and retain high quality teachers is influenced by the salary someone could earn from teaching relative to the salary in alternative professions.

The third column of table E-4 shows the relative salaries. If the number is significantly over 100 percent teacher salaries are likely to be relatively high in the region, and if it is significantly under 100 percent then teacher salaries are likely to be relatively low. The theory behind this comparison is that teacher quality is likely to be correlated to relative pay. In the Northwest region, the median salary is about in the middle of the regions, but teacher salaries on average exceed the salaries of non-teachers within the region by about 5 percent. Teacher salaries in the Northeast are at the top of the range, but fall well below comparable non-teacher salaries.

Table E-4 also has a count of the number of teachers who have received certification from the *National Board for Professional Teaching Standards*. Several recent studies indicate that such certification actually improves student performance and student outcomes. Therefore it is one indicator of teacher quality. The final column shows the certification percentage. It is apparent that the national certification program is much further along in the Southeast than in any other region.

Table E-4: Number of teachers and indicators quality

Region	Number of Teachers	Median Teacher Salaries	Relative to Salaries with Bachelors Education	National Board Certified Teachers	Percent Certified
Southeast	437,725	\$40,212	99%	18,520	4.2%
Southwest	429,360	\$37,923	88%	1,638	0.4%
West	391,798	\$50,412	99%	3,037	0.8%
Appalachian	208,185	\$39,264	93%	1,333	0.6%
Northeast	370,918	\$51,141	87%	1,159	0.3%
Mid Atlantic	288,377	\$50,828	103%	757	0.3%
Mid Continent	188,020	\$37,532	89%	643	0.3%
North Central	559,127	\$46,573	102%	4,136	0.7%
Northwest	113,224	\$45,342	105%	833	0.7%
Pacific	11,007	\$41,951	108%	59	0.5%

Source: Education Week

Resources

The level of technical assistance that is available in a region can be affected by the amount of resources devoted to education. Although higher per student spending is not necessarily correlated with better student outcomes, the availability of additional resources can mean that more technical assistance can be purchased by local schools. Table E-5 shows the regional average of per student spending. This average is adjusted for regional differences in the cost of providing educational services. The adjustment is made by multiplying the unadjusted level of per student spending (not shown) times the index of education cost. This index is calculated based on regional differences in the cost of inputs into education such as the wages of teachers and other personnel, the cost of land and construction for schools, the cost of textbooks and other school supplies, etc. The index means that the cost of providing an education in the Northeast is about 12 percent above the national average and nearly 20 percent higher than in the Southeast, Southwest, Appalachian, and Mid Continent regions. However, even after adjusting for the higher cost

of providing an education, the Northeast invests more in education than any other region. The West region, which also has well above average costs, only invests about two-thirds as much as the Northeast after the adjustment.

Table E-5: Per student spending and cost of education

Region	Per Student Spending	Index of Education Cost
Southeast	\$6,799	0.93
Southwest	\$6,844	0.93
West	\$6,060	1.09
Appalachian	\$7,051	0.93
Northeast	\$9,000	1.12
Mid Atlantic	\$8,661	1.07
Mid Continent	\$7,230	0.93
North Central	\$7,873	0.99
Northwest	\$7,374	1.08
Pacific	\$6,614	1.00

Source: Derived from Education Week

Technology

One of the focus areas for technical assistance is the integration of technology into the provision of education. Successful integration needs both the availability of adequate resources and an adequately trained staff. Table E-6 provides some information about the adequacy of the resources. The first column shows the number of students per Internet-connected computer so that a lower number indicates more resources are available. There is not a large amount of variation across the regions in this measure, although the Southwest and Mid Continent have greater available resources. The percentage of classrooms with Internet connections is shown in the next column. In this case, the Northwest is the leading region and the Northeast and Mid Atlantic are lagging. The final column shows the percentage of classroom computers that are of a vintage of a 486 for PCs and Apple II for

Macs or older. This technology may be inadequate to run modern software effectively.

Again, in this column a lower number represents a more adequate computer supply. In this case the Mid Atlantic has the smallest percentage of outdated hardware.

Table E-6: Indicators of technology availability

Region	Students/Internet Computer	Classrooms with Internet (%)	Old Computers (%)
Southeast	4.7	89	26
Southwest	3.9	89	23
West	5.6	86	23
Appalachian	4.3	92	23
Northeast	4.8	79	20
Mid Atlantic	4.0	83	14
Mid Continent	3.7	91	17
North Central	4.1	89	20
Northwest	4.7	98	19
Pacific	4.3	88	18

Source: Education Week

Even if the computers are modern and plentiful, the quality of the education will suffer if the staff has inadequate training or experience in using them. Table E-7 shows Indicators of technology staff adequacy. The first column shows the percentage of schools in which at least half the teachers rate themselves as technology beginners, and the second column shows the percentage of schools with full time technology coordinators. In the first column a lower number indicates more adequate funding and in the second column a higher number indicates more adequate funding. The job of the technology coordinator is not defined in the survey question so it is not clear whether their job is to provide professional development for the teachers or hardware management and network support.

Table E-7: Indicators of technology staff adequacy

	Tech Beginners	Full Time Tech Coordinator
Southeast	20	33
Southwest	20	36
West	23	21
Appalachian	18	30
Northeast	27	39
Mid Atlantic	16	37
Mid Continent	15	34
North Central	16	38
Northwest	20	26
Pacific	33	38

Source: Education Week

Two of the regions that have a large number of technology beginners (Northeast and Pacific) are also more likely to have a full time technical coordinator on staff. The Mid Atlantic, Mid Continent and North Central regions all have relatively low level of technology beginners and high level of technology coordinators. Nonetheless no region has more than half of its schools with technology coordinators.

Glossary

AYP—Adequate yearly progress, defined in the NCLB Act as a way to measure the academic achievement of elementary and secondary school students in relation to individual state student academic achievement standards.

CHARTER SCHOOLS—public schools that are largely free to innovate and often provide more effective programs and choice to underserved groups of students. Charter schools are subject to the “adequate yearly progress” (AYP) and other accountability requirements of the NCLB Act.

COMPREHENSIVE TECHNICAL ASSISTANCE CENTERS—centers authorized by Section 203 of the Education Sciences Reform Act of 2002 (P.L. 107-279). Appropriations for the centers in fiscal year 2005 would enable the U.S. Department of Education to support 20 centers, 10 of which must be in current regions.

COMMON CORE OF DATA—the National Center for Education Statistics’ comprehensive, annual, national statistical database of information concerning all public elementary and secondary schools and local education agencies.

CONSOLIDATED STATE PLAN FOR NCLB—plan from each state that demonstrates it has adopted challenging academic content standards and challenging student academic achievement standards that will be used by the state, its local educational agencies, and its schools.

CORE SUBJECTS—means English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography [Section 9101(11)]. While the federal statute includes the arts in the core academic subjects, it

does not specify which of the arts are core academic subjects; therefore, States must make this determination.

DFO—Designated Federal Official. A DFO acts as a liaison between a federal advisory committee and federal agency and must be present at all committee meetings.

ELL—English language learner

FACA—Federal Advisory Committee Act was created in 1972 (Public Law 92-463) by the U.S. Congress to formally recognize the merits of seeking the advice and assistance of our nation’s citizens. Congress sought to assure that advisory committees: provide advice that is relevant, objective, and open to the public; act promptly to complete their work; and comply with reasonable cost controls and recordkeeping requirements.

HIGHLY QUALIFIED TEACHERS—States must define a “highly qualified” teacher. The requirement that teachers be highly qualified applies to all public elementary or secondary school teachers employed by a local educational agency who teach a core academic subject. “Highly qualified” means that the teacher: has obtained full state certification as a teacher or passed the state teacher licensing examination and holds a license to teach in the state, and does not have certification or licensure requirements waived on an emergency, temporary, or provisional basis; holds a minimum of a bachelor’s degree; and has demonstrated subject matter competency in each of the academic subjects in which the teacher teaches, in a manner determined by the state and in compliance with Section 9101(23) of ESEA.

IDEA—Individuals with Disabilities Education Act

IEP—Individualized educational plan required by Individuals with Disabilities Education Act

IES—Institute of Education Sciences, the research arm of the U.S. Department of Education that was established by the Education Sciences Reform Act of 2002

LEA— Local education agency

OESE—Office of Elementary and Secondary Education in the U.S. Department of Education

RACs—Regional Advisory Committees that are authorized by Education Sciences Reform Act of 2002 (P.L. 107-279)

RAC QUORUM—is a majority of appointed members. A RAC must have a quorum to meet or hold an official meeting.

REGIONAL EDUCATIONAL LABORATORIES—federally-supported regional institutions that have operated since 1966 and reauthorized by Section 174 of the Education Sciences Reform Act of 2002

SCIENTIFICALLY-BASED RESEARCH—Section 9101(37) of ESEA, as amended by *NCLB*, defines scientifically based research as “research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs.” (P.L. 107-279)

SEA—State education agency

STATE—references to “States” include the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the freely associated states, and the outlying areas.

SUPPLEMENTAL EDUCATIONAL SERVICES—additional academic instruction designed to increase the academic achievement of students in schools that have not met state targets for increasing student achievement (AYP) for three or more years. Services may include tutoring and after-school services by public or private providers approved by the state.

TECHNICAL ASSISTANCE—assistance in identifying, selecting, or designing solutions based on research, including professional development and high-quality training, to implement solutions leading to improved education and other practices and classroom instruction based on scientifically valid research; and improved planning, design, and administration of programs; assistance in interpreting, analyzing, and utilizing statistics and evaluations; and other assistance necessary to encourage the improvement of teaching and learning through the applications of techniques supported by scientifically valid research (P.L. 107-279)

WHAT WORKS CLEARINGHOUSE (WWC)— clearinghouse established in 2002 by the U.S. Department of Education’s Institute of Education Sciences to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence of what works in education.

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