A Guide to Effective Accountability Reporting

DESIGNING PUBLIC REPORTS THAT EFFECTIVELY COMMUNICATE ACCOUNTABILITY, ASSESSMENT AND OTHER QUANTITATIVE EDUCATION INDICATORS IN AN EASILY UNDERSTOOD FORMAT.

THE STATE COLLABORATIVE ON ASSESSMENT AND STUDENT STANDARDS (SCASS) ACCOUNTABILITY SYSTEMS AND REPORTING (ASR) CONSORTIUM

Ellen Forte Fast and ASR SCASS

THE COUNCIL OF CHIEF STATE SCHOOL OFFICERS

COUNCIL OF CHIEF STATE SCHOOL OFFICERS

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Introduction

Over the past five to ten years, most states and many school districts have developed report cards or other types of documents to communicate information about student performance and program effectiveness to parents, policy makers, and other stakeholders. Much of this work has been driven by state accountability initiatives and recent reauthorizations of the Elementary and Secondary Education Act (ESEA), although some agencies have clearly made public reporting and accountability priorities of their own accord. With the 2001 reauthorization of ESEA, known as the *No Child Left Behind Act of 2001 (NCLB),* federal accountability and reporting have been reinforced and expanded in several ways:

- A number of specific indicators have been added to the sets that must be reported at the school, district, and state levels;
- Disaggregated (subgroup) performance indicators must now be analyzed for accountability purposes;
- Specific school-level accountability consequences are mandated for a school that fails to meet its improvement targets;
- States education agencies (SEAs) and local education agencies (LEAs, which includes school districts, school systems, etc.) must produce their accountability reports for each school year by the beginning of the next subsequent school year; and
- Reports must be both physically and linguistically accessible to a broad range of stakeholders.

These expanded federal mandates, together with a variety of state and local accountability reporting requirements, are placing states and districts under escalating pressure to produce a greater number of increasingly complex reports at the state, district, and school levels—and to do so more quickly than ever before. They pose particular challenges for accountability reporting because these reports convey high stakes information for schools and districts and are expected to serve multiple purposes for multiple audiences.

Generating such reports is not easy. In addition to substantial human and capital resources, report design, production, dissemination, and follow-up support require extensive expertise, the integration of multiple data management systems, and the coordination of often disparate policy perspectives. Further, state and local education agencies staff must simultaneously juggle current practices, redevelopment activities, and transition strategies as they comply with the new law. Thus, even though many agencies have already been publishing report cards or other types of accountability reports, most will face substantial challenges in meeting the new requirements—with few examples on which to draw.

To assist state and local educators in these endeavors, the Council of Chief State School Officers (CCSSO) developed this monograph, *A Guide to Effective Accountability Reporting* through the ASR SCASS (Accountability Systems and Reporting State Collaborative on Assessment and Student Standards). *A Guide to Effective Accountability Reporting* is intended to serve as a resource for the staffs of state education agencies (SEAs) and local education agencies (LEAs) who are responsible for producing state, district, or school report cards of the type required under many state or district accountability systems as well as under NCLB. This guide is not intended to provide an academic discussion of the nature of indicators and indicator systems, nor is it meant to cover the broad territory of accountability issues. It is meant to provide a resource for agencies, and to spur the thought of practitioners, as accountability reporting systems are tooled to meet the requirements of NCLB.

While each state or local agency will have different approaches and starting points for the development of accountability reports, and different end products, it is a good idea for all agencies to *clearly document* whatever processes are used in report development. This will provide evidence that reports were developed in a sound manner, help to ensure the process is comprehensive in addressing all relevant reporting requirements, and facilitate subsequent redevelopment plans.

Organization of this Guide

Chapter 1 — Identifying Reporting Needs

This chapter is designed to help state and local education agency staff think through the goals and requirements of the NCLB required reports. It begins by delineating the reporting requirements under NCLB, then offers suggestions for how agencies can build or refine their reporting systems to meet these requirements effectively.

Chapter 2 — Designing Reports for the No Child Left Behind Act

NCLB prescribes specific content requirements for accountability reports. This chapter includes a list of NCLB reporting requirements, as well as examples of potential assessment and AYP reports that meet these requirements.

Chapter 3 — The Design Process

Because it is import not only to present the required accountability information, but to present it well, this final chapter offers an overview of the design process itself, including general suggestions related to text, graphics, and alignment of report cards with other documents in state and local accountability systems.

Appendices

- **Appendix A** provides details about additional non-public reports, NCLB definitions of highly qualified teachers and graduation rates, and program evaluation reports.
- **Appendix B** provides a list of concepts designed to help guide the report design process.
- **Appendix C** includes a variety of resource information on report design, examples, and other publications.

Chapter 1: Identifying Reporting Needs

Most states and many school districts already produce a number of reports meant to publicize information about student performance and program effectiveness to parents, policy makers, and other stakeholders. Whether the catalyst for developing these reports was a legislative mandate, a local commitment to transparency and accessibility, or grew out of a data-based approach to educational improvement, all are ultimately driven by a demand for more and better education information. Whatever the case, these reports reflect the system's values to stakeholders: the indicators reported illustrate how well schools, districts, and the state are doing in several outcome and process domains and, implicitly, which outcomes are valued and which characteristics, inputs, and processes are believed to contribute to these outcomes.

What to Report

Recent expansions of state and federal accountability legislation, most notably the *No Child Left Behind Act of 2001* (NCLB), are now forcing state and local agencies to reevaluate their school and district reports as well as the accountability systems that include them. Though this will result in numerous challenges across the board, it also provides an opportunity for agencies to simplify and enhance reporting systems. **Specifically, rather than add new elements to existing disparate reports serving multiple purposes and audiences, NCLB requirements provide the opportunity and impetus for agencies to take stock of their current reporting systems, determine their goals and objectives for reporting systems, and then chart the path between these two points. *A Guide to Effective Accountability Reporting* aims to assist state and local education agencies (SEAs and LEAs) meet these challenges.**

Accountability Report Cards as Part of an Agency's Larger Reporting System

A first step in designing a reporting system to meet NCLB requirements is to take stock of existing reports. NCLB has specific accountability reporting requirements for all states, much of it in the form of report cards. In many cases, SEAs and LEAs will find existing reports include some of the same indicators, cover the same domains, and will probably be produced by some of the same staff as those required by NCLB. (See CCSSO, 2002, for a list of all state reports and web links.)

However, accountability report cards may differ from other reports in several important ways:

- Unlike much agency reporting targeted to audiences of policymakers, experts, or other department staff, report cards target the needs of public stakeholders: parents, educators, community members, researchers, and others;
- Report cards convey a message with high stakes for individual schools or districts;
- Report cards make an agency's values and expectations explicit;
- Report cards provide a descriptive and evaluative "snapshot" of individual schools and districts rather than a summary statement across schools or districts;
- Report cards are typically short and focused on student achievement, but they can encompass a broad range of indicators. They are more of an "executive summary" rather than a traditional full report; and
- Even though they are summaries themselves, report cards should provide more detailed information about individual schools or districts than what can be included in a press release or reported by the media. These reports may also provide pointers to resources for additional information.

While report cards and the accountability system that includes them are mandatory under NCLB, the formality and specificity of the NCLB accountability requirements suggest that SEAs and LEAs will need to reconsider any existing report cards and other accountability reports, both in order to reduce duplication of information and efforts and to create a cohesive system of accountability reporting. Simply producing a new set of report cards to meet NCLB requirements while continuing existing reports is likely to be repetitive and confusing.

NCLB Reporting Requirements

NCLB reporting requirements encompass a wide range of reports. Figure 1 outlines three types of reports, and describes these requirements in relation to purpose, data included, agency responsible for producing them, and other reports that agencies are likely to be producing. Appendix A provides further details.

Figure 1: Types of Reports Specified by NCLB

Report Category	General Description	Typically Produced By	Typically Produced When
Assessment Reports	Summarize performance at the individual student, classroom, school, district, and state level	A Contractor	Before the beginning of the next school year
Accountability Reports	Report cards or profiles at the school, district, and state levels that may be linked to state accountability systems; Each state must submit an annual performance report to the US Department of Education	State or district agency, with assistance from a contractor	Before the beginning of the next school year
Program evaluation reports	Summarize activities and services at the program level; also describe evaluation methods and criteria and include the results and consequences of the evaluation	In most cases, the state agency; districts are responsible for some reports	Annual or Biennial

Assessment Reports

All states are required under NCLB to implement standards-based student assessment systems—most details of which are beyond the scope of this guide. Student assessment systems typically include several types of reports.

In addition to these content mandates, NCLB directs states and districts to publish the results of the assessments **before the beginning of the next school year.** Accountability reports, which include a substantial amount of assessment information, must also be published prior to the beginning of the next school year. Currently, several states are changing to a fall testing window or moving testing to earlier in the spring to meet this new requirement (see CCSSO, SSAP, 2002).

Accountability Reports

NCLB requires states to produce state report cards and to produce, or ensure that districts produce, report cards at the district and school levels. These report cards differ from the assessment reports in that they must include indicators of assessment performance as well as indicators of other, non-assessment features. They also differ from the program evaluation reports required by NCLB because the report cards are meant to convey information to stakeholders within the state.

Three levels of report cards are mandated under NCLB. All three levels of report cards are required to be implemented beginning in the 2002-03 school year, reflecting 2001-2002 data, and to be produced and disseminated annually thereafter. Requirements for each level, basic information about the production and dissemination of these report cards, and the schedule of reporting, are listed in Figure 2. Further details on the NCLB reporting requirements can be found in Appendix A.

Evaluation Reports

NCLB requires state education agencies, and/or districts, to produce a number of evaluation reports for the programs the legislation encompasses. A full description of these evaluation reports is beyond the scope of this guide, though it is important to note where requirements for the accountability reports and requirements for the evaluation reports are related so that production of these reports can be coordinated and the information within them can be aligned. The report cards provide more detail at the state, district, and school level and the evaluation reports reflect more detail on the program level. For example, while the Annual Report to the Secretary requires information on the acquisition of English language Proficiency, results of the English Language Proficiency Assessments, the biannual

Contractor versus Staff

Hiring a contractor to produce reports does not mean that an agency has relinquished its responsibility for ensuring that the reports are accurate and of high quality. Regardless of how much money a contractor is paid, and how rigorous their quality assurance and review systems are, an agency should review and approve every report it creates or authorizes a contractor to create. SEAs or LEAs should require contractors to provide clients with raw data files that will enable them to build adequate time into their production schedules to allow clients to conduct their own reviews.

Figure 2: NCLB Requirements for the Production and Dissemination of Accountability Report Cards

Issue	Requirements for School, District, and State Report
Who is reponsible for production and dissemination?	School and District – The legislation specifies that the district is responsible for the school and district report cards, but the state may produce these on behalf of the district. If the district does produce these report cards, the state is still responsible for ensuring that they are indeed produced and disseminated and that they meet all of the stated requirements. State – The state education agency is responsible for producing and disseminating the state report cards.
How must the report card be disseminated?	School and District – The district must disseminate school and district report cards to: ▪ all schools in the school district served by the local educational agency; ▪ all parents of students attending those schools; and ▪ the community, through public means, such as — posting on the Internet, — distribution to the media, and — distribution through public agencies State – No dissemination requirements are indicated either in the legislation or in the regulations published to date. However, the annual report that all states must provide to ED does summarize many of the elements of this report card.
What other types of information must be made publicly available?	School – At the beginning of each school year, districts that receive Title I funds must alert parents that they may request, and the district must provide: ▪ the qualifications of their child's teacher, ▪ the level of achievement of the parent's child in each of the State academic assess ments. In addition, if the school has been identified for improvement, the LEA must provide an explaination of what the indentification means, and inform parents of the steps taken and services available to improve student achievement.

*See Appendix A for more information and details.

Title III report requires information how the assessments address the four cognitive demands of language. Appendix A provides an overview of the evaluation reporting requirements under NCLB .

How to Plan and Implement Reports

Accountability reports provide the opportunity for SEAs and LEAs to articulate to a broad audience—locally and nationally—valued outcomes, and also the characteristics and practices that are believed to contribute to them. This contrasts with the compliance–monitoring roles of SEAs and LEAs of days past, in which reporting was about schools and districts providing evidence that they were meeting process requirements, even if they weren't particularly effective in improving student learning. Thus the new accountability reporting paradigm provides the opportunity to utilize accountability reports as a statement of an agency's approach to educational improvement. They can highlight successes, illustrate results, and convey to stakeholders agencies' plans to meet challenges.

Because accountability reports are the most widely visible mechanisms for sharing successes and challenges for schools and systems, agencies must carefully consider the messages sent by accountability reports, and the desired responses from stakeholders. The choice of information placed in these reports publicly reflects the agency's values. Even when legislation dictates much of the content of the reports, as is the case in many jurisdictions across the country, report designers—the individuals who interpret and implement the reporting requirements— should plan reports and the materials that accompany them to suit local needs and interests. In doing so, they will contribute to the ultimate goal of an accountability system: improved educational achievement.

To assist an SEA or LEA to create "a clear purpose" and achieve a "well-shaped message," CCSSO recommends three critical ingredients in developing an accountability report:

- Define planning and implementation phases,
- Use effectiveness as the guiding principal in the reporting system, and
- Engage in a report and preparation process that is inclusive of both context and goals.

Implementation Issues

As this process is contemplated by SEAs and LEAs, it is important to think strategically in the short– and long–term when considering the two phases of reporting: planning/preparation and implementation. As with any project, agencies should think differently about planning activities and implementation activities in terms of staffing and budgets. Planning/preparation activities require levels of intensity and focus that probably cannot be sustained for very long. Implementation activities must be sustained indefinitely— and so should be staffed and budgeted accordingly.

Use Effectiveness as the Guiding Principle of Reporting

The recommendations for reporting found in *A Guide to Effective Accountability Reporting* are based on the principal of effectiveness: the degree to which the document conveys the intended message to the intended audiences and successfully encourages them to act on it. That may sound simple, but determining the message, the audience, and what the desired outcome requires a careful planning, above and beyond simple compliance with the law. Effective reports are meaningful and memorable—they carry a message that "sticks" with the stakeholder, provide solid answers to important questions, and spur stakeholders to take some kind of action—such as deciding to learn how to increase a child's literacy skills or getting involved with a parents' group at a school. In other words, an effective report is one that presents a **coherent** message, supports **valid** interpretations and communicates this message in a way that is **accessible and useful** for the right people in the right way at the right time. A list of some issues related to each of these concepts is in Figure 3 on pages 17 and 18, and in Appendix B.

Steps in Report Preparation

Regardless of the resources available to the agency—from staff to information management systems—there are some basic process elements to consider:

1. Take stock of the current reporting system,
2. Form the design team,
3. Review other agencies' reports,
4. Design a dissemination plan, and
5. Sketch out the reports.

1. Take Stock of the Current Reporting System

As the first step in creating an accountability reporting system, agencies should establish a **reporting inventory** that includes—to the extent possible—all reports that bear some relevance to public accountability reporting. The reporting inventory will reveal what types of information are already published, by whom, and when, how, and to whom they are distributed. This will point out sources of accountability–related information and perhaps also where there exist inconsistencies, unintended overlaps, and holes in the reporting system. This inventory can help front–end planning, providing the opportunity to build or renew an **efficient** reporting system—that is, a system in which the reports meet the majority of intended needs with minimum resources necessary to do so effectively.

Assessment reports in particular are highly relevant to accountability reports and are an essential part of the reporting inventory. Too often, systems for reporting accountability information and systems for reporting assessment information are developed independently. This will almost certainly end up confusing stakeholders: consider the difficulties faced by parents trying to reconcile the school report card with the information in their child's individual student report from the state assessment. As a result, it is a good idea for the content and style of the assessment reports to mesh with those of the accountability reports.

Evaluation

In addition to these specific areas of consideration, it would be wise to build into the design process a few features that will allow report evaluation. These should focus on whether reports are indeed effective (coherent, valid, and accessible). Ideally, a periodic and formal evaluation of the reporting system would be regularly undertaken to ensure that the reports generated are achieving the intended goals. Plus, any formal evaluation of the assessment system or accountability model should include the accompanying reports.

Finally, reports on teacher quality, dropout or graduation rates, promotion/retention rates, enrollment, fiscal resource allocations, and several other areas are also highly relevant to the accountability reports because they include indicators that the accountability reports will directly use, break down, or summarize.

It is important, also, to note the messages in all of these existing reports. The up–front planning required in creating an effective accountability reporting system provides the opportunity to shape the messages in all these reports to reflect the goals, objectives, and values of the community.

2. Form the Design Team

As discussed earlier, it is important to get as much input as possible on the evolving reporting system. A systematic way of accomplishing this goal is to form a "design team" for this purpose. This team should meet several times during the design and implementation periods to review plans and progress, and to provide recommendations and suggestions for the reports. Like many other committees that agencies work with, this team should not be in a position to give formal approval; rather, it should provide recommendations based on the members' diverse range of expertise and experience.

This design team should be made up of state and local agency staff and other types of interested stakeholders. The following are examples of personnel to consider for membership on this team:

- Title I/Federal programs personnel;
- Reading and mathematics content specialists;
- Assessment directors;
- Accountability or evaluation analysts;
- Public Relations managers;
- Special education and ESL/bilingual specialists;
- Parents of students in Title I schools;
- Education journalists; and
- Business leaders active in education.

This committee will be most useful it if crosses jurisdictional boundaries. State and local agencies both produce many reports on the quality and effectiveness of their education systems and programs, and the ultimate responsibility for these vary by location: in some states, districts have complete responsibility for designing and producing reports, such as school report cards. Elsewhere, states design and produce—or design and require districts to produce—such reports. Thus, while planning for the accountability reporting system, it is valuable to include as many varied voices as possible to comment on messages, design, and dissemination issues.

3. Review Other Agencies' Reports

Chapter 2 of this guide offers examples of good practice for developing reporting systems; Appendix C includes resources and samples of good reports. Add to these models by gathering reports from other agencies, both in paper and web format. The result should provide both examples to imitate and those to avoid. There is no reason to reinvent the wheel for each report, either in content or format; in many cases, good reports have resolved problems that may be common across states and jurisdictions. Finally, consider contacting someone in charge of creating a useful report to learn the problems they encountered and the solutions employed. This peer–to–peer interaction may provide a keen advantage to agencies moving forward with new or reinvented reporting plans.

4. Design a Dissemination Plan

Part of the challenge in designing an effective accountability system is making sure everyone gets the information they need. A fourth step in the up-front design process is developing a dissemination plan, literally a written document that lays out who gets which document and by what delivery means.

At a minimum, a dissemination plan should include:

- Goals and objectives for the reports;
- A description of the target audiences for the reports;
- The intended use for the reports;
- The schedule for annual production and dissemination of the reports;
- The evaluation plan for the dissemination system: do the documents reach the target audiences effectively and efficiently?

To be more effective, the dissemination plan should also include specifics on the distribution elements, not just about the report itself:

- Guidance on printing and distribution of the reports:
  - For SEAs, will the reports be printed and sent directly to districts and schools, or will districts and schools be required to print and distribute the

reports from electronic files? What sort of quality control will be in place?

- How will the reports be packaged for distribution? Plain or specially designed envelopes? Will accompanying documents be in the same package? Will a bulk or other discounted rate need to be arranged? What sort of quality control will be in place?
- Which stakeholders not associated with districts or schools will receive the reports?
- How will staff handle incoming requests for reports? Will there be a charge for postage? Where will extra copies of the reports be stored? Will requests for previous years' reports be honored?

■ Guidance on Internet distribution:

- Will static versions of the reports be available, such as pdf versions of the paper reports?
- Will interactive reports be available, ones that allow stakeholders to view indicators or graphics related to a specific question?
  - Will these indicators or graphics be "canned", meaning that they are pre-produced and simply called up when a user selects from a set of options?

  or
  - Will these indicators or graphics be dynamic, meaning that analyses are conducted in real time in response to a user query?
- Will links to district and school websites be included?
- How will web reports and paper reports compare?
- How will stakeholders find these reports? Through direct links or keyword searches? How visible will they be from the front page of the agency's web site?
- Who will maintain the webpage?

IT Outsourcing

The complexity of the data and analyses systems increases dramatically across these three options (static, canned, dynamic). In the absence of a highly sophisticated IT department, SEAs and LEAs should consider contracting out for this work. A consultant could be hired only to design a system, or to build the data warehouse and set up the analysis and interface software. As an alternative to producing custom systems, some states and districts are supplying their data to on-line education reporting organizations. This is typically a free or inexpensive approach, but reduces control over how data are reported publicly and are not likely to meet all reporting goals and requirements.

- How often will data files be updated? Will the interface be reviewed and updated periodically as well?

5. Sketch out the Reports

Finally, based on the reports available, along with advice from advisory groups, agencies should make a rough sketch of what to put on the pages of the report. At a minimum, create a list of data elements that will be included. Even better would be to actually draw a rough picture of collective vision of the report. It should include some ideas on:

- How many pages the report will be and on what sized paper;
- The desired balance between text, tables, and graphics; and
- How the report will be organized so that it clearly conveys the message and presents information in order of priority or interest.

Ongoing Reporting Issues

As the planning process proceeds, it is important to plan for the future of the accountability reporting system. Consider issues such as report storage and access, long-term distribution, updating the reports as new or better data becomes available, and staffing. Figure 3 on pages 17 and 18 provides a summary list of issues to consider for the implementation phase of accountability reporting.

Figure 3: Issues in Developing Effectve & Efficient Reporting Systems

Effectiveness: Message, Content, Access

Planning/Preparation Phase

- What message should the report convey?
- Who are the audiences for the report?
- What are the audiences meant to be able to do with the information in the report?
- What indicators will best convey each component of the agency's message to these audiences?
- What are the separate components of the overall message and how will these components be represented in the report?
- Will the balance across report components parallel their conceptual balance in the intended message?
- What other information should be included in the report to facilitate appropriate interpretations?
- What other documents, such as evaluation or research reports, professional curricular or instructional guidelines, or agency policy statements, should be linked or referred to in the report to provide important context for its interpretation?
- Should any other document or reports produced by the agency be revised to support cohesion across the reporting system?

Implementation Phase

- Is the report readily accessible to the target audiences? What sort of quality checks are in place?
- Are agency staff trained and prepared to answer questions about the reports, via telephone, email, or letter?
- Have local educators been provided with adequate training and documentation on how to interpret and use the information in the reports?
- Have educators and community members been targeted to serve as 'critical friends' by providing regular or on-demand feedback on the reports?

Efficiency: Integration, Data Systems, Dissemination

Planning/Preparation Phase

- What reports does the agency already produce that could meet new requirements, perhaps with some modification?
- Are the desired indicators already produced and disseminated elsewhere in the agency? Should any of the new indicators developed replace current indicators being used elsewhere?
- Do existing data collection instruments, cleaning processes, and timelines support the timely production of the accountability reports?
- If additional data must be collected, how can this be done without substantially increasing the burden of local educators and administrators (e.g., by replacing or revising items on existing surveys or by allowing those providing the data with options for easier filing, such as electronic templates for data submission)?
- Are the data management and analysis systems for various data elements integrated (or at least coordinated) so that the indicators are readily available when needed for report publication?

Implementation Phase

- How is the report to be disseminated to parents? Other stakeholders?
- If a paper document is to be sent out, can this be coordinated with the dissemination of other documents, such as assessment reports or student report cards?
- Can the report cards, or information about them, be distributed to the community via a statewide or local newspaper?
- Can members of the broadcast media mention the report cards and where to find them on the air?
- Has a system been developed to accept input from stakeholders on the quality of the reports and the dissemination system? How will this input be used to improve reporting practices?
- What other information will stakeholders need to be able to understand and use the report card and is this information readily accessible to them?

Chapter 2: Designing Reports for the No Child Left Behind Act

Chapter 1 focused on establishing the principles and identifying the requirements that should drive an agency's report development processes. This chapter focuses on specific content requirements of NCLB accountability reports.

NCLB requires a specific number of indicators, and information to be included in report cards, some of which are new indicators for states. Most require more disaggregation than currently required by states. These fall into three basic categories:

- Assessment reporting,
- AYP reporting, and
- Indicators of teacher quality, school conditions, and outcomes.

The specific requirements within these categories are summarized in Figure 4. The pages that follow contain examples of how to report the required information in each category in ways that are both effective and efficient.

Figure 4: NCLB Report Card Reporting Requirements

Under the NCLB Act, States and school districts (LEAs) are required, not later than the beginning of the 2002-03 school year, to prepare and disseminate annual report cards. Requirements for the data elements to be reported are set forth under section 1111(h) of the law and summarized in this figure. Although schools are not required to prepare and disseminate their own reports, information about whether a school has been identified for improvement and how a school's students are achieving must be included in the State and school district reports.

States must also report annually, beginning with school year 2002-03, to the Secretary of Education information on their progress related to requirements set forth in section 1111(h)(4).

States and school districts reports are required to be concise and presented in "an understandable and uniform format and, to the extent practicable, provided in a language that parents can understand" (sections 1111(h)(1)(B)(ii) and 1111(h)(2)(E)). Additionally, school district reports must be made "widely available through public means such as posting on the Internet, distribution to the media…" (section 1111(h)(2)(E)).

Items to be Reported	State Report Card 1111h(1)C	LEA Report Card 1111h(2)	School Report Card 1111h(2)B	Annual Report to Sec. 1111h(4)
Assessment Information				
For each grade and subject tested: (1) percentage of student assessed and (2) information on students at each state defined proficiency level, in the aggregate and disaggregated[1,4] by:	X	X Compared to state	X Compared to state and district	X
Gender[2]	X	X	X	
Major Racial and Ethnic Group	X	X	X	X
English Proficiency Status	X	X	X	X
Migrant Status[2]	X	X	X	
Students with Disabilities	X	X	X	X
Compared to Non-disabled students	X	X	X	X
Economically Disadvantaged	X	X	X	X
Compared to Non-Economically Disadvantaged	X	X	X	X
Most recent 2 year trend in each subject and grade level in student achievement[3]	X	X	X	X
State's progress in developing required assessments				X
Accountability Information				
Comparison between the actual achievement for each group[1,4] and the State's annual objectives for AYP: All Students Economically Disadvantaged Major Racial and Ethnic groups Students with Disabilities Limited English Proficiency Students	X	X	X	
Aggregate and disaggregate[2] information on other academic indicators that the State has selected for AYP: Including graduation rate for secondary and an academic indicator for Elementary, Middle schools	X	X	X	
Aggregate information on any additional indicators the state may use to determine AYP	X	X	X	
Performance of LEAs regarding achieving AYP	X	X		
Number of Schools identified for improvement	X	X		X
Names of Schools in improvement	X	X		X
Percentage of Schools identified for improvement		X		
How long the Schools have been identified for improvement		X		
Whether school has been identified for improvement			X	
Reason(s) school was identified for improvement			X	X
Measures taken to address achievement problems of Schools identified for improvement				X

Items to be Reported	State Report Card 111h(1)C	LEA Report Card 1111h(2)	School Report Card 1111(2)B	Annual Report to Sec. 1111h(4)
Teacher Information[5]				
Professional qualifications of teachers as defined by the state	X	X	X	X
Percentage of teachers teaching with emergency or provisional credentials	X	X	X	
Percentage of classes taught by highly qualified teachers in the state, LEA, and school				X
Percentage of classes in the state not taught by highly qualified teachers (aggregate and in the highest and lowest quartile schools based on poverty)	X	X	X	
English Language Proficiency				
Information on the acquisition of English proficiency by LEP students			X	
Supplemental Services and School Choice				
Number of students and schools that participated in supplemental services and public school choice				X
Time Line				
	Not later than the beginning of the 2002-2003 SY			Beginning with school year 2002-2003

[1]Except that such disaggregation shall not be required in a case in which the number of students in a category is insufficient to yield statistically reliable information or the results would reveal personally identifiable information about an individual student

[2]Not required for Adequate Yearly Progress

[3]In any year before the State begins to provide information described above, information on the results of student academic assessments

[4]Including students who are enrolled in a school or LEA for a full academic year, as defined by the state.

[5]Sec. 1119 a/b requires reports on schools, LEAs, and the state—regarding meeting measurable objectives related to the percentage of highly qualified teachers in core academic subjects: English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography.

Major racial and ethnic subgroups: African American/Black, Asian/Pacific Islander, American Indian/Alaskan Native, Hispanic, White

Assessment Indicators

In terms of the number of indicators involved, the majority of the information that NCLB requires states and districts to report involves performance on the state or local standards-based assessments. On the school, district, and state level report cards, NCLB requires reporting of total and disaggregated performance information:

- Student achievement by academic performance level,
- Most recent 2–year trend in each subject and grade for All Students,
- Comparison between the actual achievement and the State's annual objectives for AYP, and
- Percent of students assessed.

Clearly, the amount of information here is substantial, especially since the assessment data must be disaggregated by subgroups, subject, and grade:

- School/district student population, and
- Each specified subgroup
  - Racial/ethnic groups—including at least
    - African American/black,
    - Hispanic,
    - White,
    - Asian/Pacific Islander, and
    - American Indian/Alaskan Native;
  - Male and Female;
  - Students with disabilities AND students without disabilities;
  - Limited English Proficient students;
  - Migrant students;
  - Economically Disadvantaged AND Non–Economically Disadvantaged students.

The simplest way to present a large amount of information like this is to use a series of tables. The major organizing variables should be grade level and test. That is, decide whether to report on all tests within a grade level or report for all grade levels within a test.

The sample in Figure 5 on the next page illustrates how this could look. In this example, all required assessment indicators are presented for a single grade. The proportion of students tested and the percent scoring at each performance level for the school are presented for the current year, along with the school's grade-level trend across two years for the "all students" category.

Figure 5: Sample Assessments Report for a School, Single Grade Level, Language Arts Assessment

Grade 3 Language Arts Assessment				% at each proficiency level			
Student Group			% tested	Level I	Level II	Level III	Level IV
All students	School	2001-02	95	10	20	29	41
		2000-01	94	11	21	23	45
	District	2001-02	93	15	23	35	39
	State	2001-02	95	18	22	36	24
Female	School	2001-02	96	9	12	34	55
	District	2001-02	94	8	12	31	58
	State	2001-02	95	8	14	30	48
Male	School	2001-02	92	15	23	32	30
	District	2001-02	95	17	32	35	40
	State	2001-02	97	14	23	36	28
African American	School	2001-02	94	15	20	31	36
	District	2001-02	96	9	12	31	31
	State	2001-02	93	14	25	35	25
Hispanic	School	2001-02	85	11	10	34	26
	District	2001-02	84	10	14	32	37
	State	2001-02	84	12	12	31	45
Asian/Pacific Islander	School	2001-02	–	–	–	–	–
	District	2001-02	<	<	20	38	34
	State	2001-02	92	9	20	35	34
American Indian/ Native Alskan	School	2001-02	–	–	–	–	–
	District	2001-02	–	–	–	–	–
	State	2001-02	92	4	21	38	41
White	School	2001-02	94	5	16	34	25
	District	2001-02	95	15	15	34	36
	State	2001-02	95	5	20	35	41
Students with Disabilities	School	2001-02	95	18	21	39	47
	District	2001-02	96	17	25	34	16
	State	2001-02	91	19	32	31	14
Students without Disabilities	School	2001-02	98	8	25	38	39
	District	2001-02	94	14	20	37	18
	State	2001-02	95	16	41	31	15
Migrant Students	School	2001-02	85	18	38	36	8
	District	2001-02	86	14	20	35	54
	State	2001-02	84	11	32	29	54
Limited English Proficient Students	School	2001-02	79	11	20	34	52
	District	2001-02	85	13	10	30	24
	State	2001-02	85	12	16	29	24
Economically Disadvantaged	School	2001-02	91	10	12	30	23
	District	2001-02	95	8	12	35	45
	State	2001-02	94	10	14	34	42
Non-Economically Disadvantaged	School	2001-02	98	8	10	38	41
	District	2001-02	95	7	18	41	44
	State	2001-02	94	9	15	23	43

< Group below state definition for statistically reliable results.
– No students in group.

Although this is a great deal of information to put into one table, several key design features do help:

- **Grid lines** have been **deleted** in some cases and **lightened** in others to reduce the amount of interference with the text,
  - The most important information to most readers is larger. This helps the reader to quickly skim the table and see patterns;
  - The "%" **symbols have been eliminated** within the table's data cells and numbers have been **rounded** to the nearest whole. Results may be reported to the tenth decimal place, but additional detail tends to make a table more difficult to read; and
  - All **words are spelled out in full** so the reader doesn't have to refer to a separate key.

This sample table reports the percent of students scoring in each performance level. The number of non-participating students is not explicitly reported in this table. However, the aim was accomplished by reporting the percentage of students who did participate—an indicator for which there is an explicit goal and requirement.

The darker gridlines separate the sets of subgroups so that each student would be represented only once within the rows between the darker horizontal lines. This, too, helps the reader to focus on reasonable comparisons. In this table, multiple years of data are kept together within grade level; this supports readers' reasonable comparisons of performance across time within a grade.

This text accompanying this table should be minimal, but used to describe the assessments and definitions of the subgroups. It should also include some cautions to readers about making comparisons across groups, even from year to year, and against inferring that relatively small differences are meaningful or that differences are the result of innate abilities or a biased test.

Adequate Yearly Progress Indicators

At the school, district and state level report cards, the NCLB Act requires reporting the aggregate and disaggregated performance and academic indicator information:

- Comparisons between the actual achievement of students and the State's annual objectives on academic assessments;
- Aggregate and disaggregated (not required in AYP calculation) information on the other academic indicator used for adequate yearly progress;
- Whether the school has been identified for improvement (including corrective action and restructuring).

In the case of the school level report, NCLB requires a comparison between the achievement of students in the school on academic assessments and other indicators of AYP compared to students in the district and state as a whole. The sample in Figure 6 illustrates how such a report could look at the school level. This table includes indicators that are reasonable to compare—school, district, and state levels of performance—right next to each other. Since NCLB requires the reporting of all of this information, an alternative is to provide a single summary table, which lists only the information for each level of statistic.

Figure 6: Sample School Level Accountability Report Card: 2002-2003

School: Thoreau Elementary Grade Span: K-5

Student Group	Language Arts						Mathematics						Academic Indicator(s)*		
	% tested Goal: 95%			% Proficient Goal :50%			% tested Goal: 95%			% proficient Goal: 40%			Attendance Goal: 90%		
	School	District	State	**School**	District	State	**School**	District	State	**School**	District	State	**School**	District	State
All students	**96**	94	95	**49**	51	50	**96**	94	94	**39**	39	41	**89**	88	91
African American	**95**	95	93	**54**	54	52	**95**	94	96	**40**	40	41	**90**	88	91
Hispanic	**94**	93	84	**<**	<	51	**94**	93	92	**<**	<	41	**88**	88	89
Asian/Pacific Isl.	–	94	95	**–**	51	52	**–**	94	95	**–**	<	54	**–**	<	94
American Indian/ Native Alskan	–	<	96	**–**	<	58	**–**	<	58	**–**	<	96	**–**	<	96
White	**96**	92	94	**55**	55	56	**95**	95	96	**41**	38	40	**87**	90	96
Students with Disabilities	**97**	99	95	**<**	<	41	**94**	98	98	**<**	<	34	**84**	85	85
Limited English Proficient Students	**92**	95	79	**39**	41	40	**92**	98	97	**24**	45	31	**90**	91	89
Economically Disadvantaged	**95**	96	91	**42**	38	40	**96**	97	98	**42**	40	38	**91**	95	94

This school has not met the Adequate Yearly Progress (AYP) requirements as defined by the state for the 2002-03 school year. This is the first year the school has not met the AYP requirements under the Federal No Child Left Behind Act.

* This can include graduation rate for secondary schools or other academic indicator for elementary and middle schools, as well as optional indicator(s) as determined by the State.

< Group below state definition for statistically reliable results.

– No students in group.

##: Reported, but not included in AYP calculation

An alternative could be to report the percent scoring at or above proficient and the percent scoring below the lowest cut score. This would help the reader to understand a bit more about the score distribution. When making these decisions, keep in mind that at some point more information will become too much information.

Other Academic Indicators

NCLB requires for AYP reporting one additional indicator beyond the assessment indicators for determining progress of each school and district. Graduation rate is required for high schools, but for other grades, the indicator is selected by the state and are a subset of those that most agencies already report. They include outcomes—such as graduation rate—and other variables that may be related to outcomes such as class size, attendance rates, and levels of school violence. However, SEAs and LEAs should be careful to ensure that the local definition for these indicators matches the NCLB ones. For example, the graduation rate definition for NCLB is different from the way in which many states currently calculate it. (States and districts are welcome to use additional indicators beyond graduation rate for high schools and another indicator for other grades, as desired, but these must be included in AYP reporting.)

The other academic indicators are not included in the annotated list in Appendix A because NCLB does not specify how to calculate these, even though it requires at least one be used in the formula for determining AYP. But agencies must include any indicator in the report, whether it appears on the list of optional ones in NCLB or not, if it is used to determine AYP. These indicators should be calculated and reported in the manner that best reflects the agency's systems and values.

Reporting Teacher Indicators and School Demographics

A second type of indicator used in accountability reports reflects characteristics of schools that do not stem from performance or participation on an academic test. In a broad sense, this category includes a number of indicators that have been a part of state and local indicator reports for years, including student demographics, quality of the teaching staff, school programs, characteristics, resources, and finance indicators. However, several types of indicators are specified by NCLB requirements.

Teacher Indicators The NCLB Act specifically requires teacher information to be included in the state, district and school report cards. The professional qualifications of teachers, percentage of highly qualified teachers in the aggregate and disaggregated by the poverty level of schools, and the percent of teachers with emergency or provisional licensure are all required reporting elements. An example of how teacher indicators could be reported is illustrated in Figure 7. Again, the more contextual information that can be given, the more relevance these numbers will have to the reporting audience. At the same time, it is important to make sure the message is not lost in tables upon tables of data.

Figure 7: Teacher Information relating to NCLB core academic subject areas:

Professional Qualifications**	Must meet state licensure standards, major in subject area taught
% of teachers with emergency/ provisional certification	12%
% of classes **not** taught by Highly Qualified Teachers	15%
in High Poverty Schools	22%
in Low Poverty Schools	11%

** As defined by the state.

<u>Highly Qualified Teachers as Defined by the NCLB Act</u> When used with respect to any public elementary school or secondary school teacher, refers to a teacher that:

- Has obtained full state certification, which may include certification by alternative routes

or

- Has passed the state licensure examination and holds a license to teach in the state; and
- Has not had certification waived on an emergency, temporary or provisional basis

The NCLB Act contains specific requirements by grade taught, including:

A New Elementary School Teacher:
Must possess a Bachelor's degree and pass a "rigorous" state test of subject matter knowledge and pedagogy in reading, writing, mathematics, and other subjects of the elementary school curriculum.

A New Middle or Secondary School Teacher:
Must possess a Bachelor's degree and pass a "rigorous" state test in each of the academic subjects in which the teacher teaches

or

Successfully completes in each academic subject taught:

— An undergraduate major;
— Graduate Degree;
— Coursework equivalent to an undergraduate major; or
— Advanced certification or credentials

An Elementary, Middle, or Secondary Teacher who is not new to the profession:

Must possess a Bachelor's degree and meet the applicable requirements for teachers new to the profession;

or

Based on a high, objective, uniform State standards of evaluation demonstrates competency in each academic subject in which the teacher teaches.

See Appendix A for more detail.

[1]Highly Qualified Teacher applies to all "core academic subjects": English, reading or language arts, mathematics, science, foreign languages, civic, government, economics, arts, history, and geography.

School Demographics

The biggest challenge in reporting other indicators for schools, such as student and teacher demographic data, is in deciding how to organize them and where to find space for them given the demands of AYP reporting. Readers may want to see these indicators in two different places within a report card, (a) with other substantively related information, and (b) with indicators used to calculate AYP. For example, many agencies organize their report cards into sections such as basic characteristics of the student body (e.g., enrollment, proportions in race/ethnicity categories, etc.); assessment performance; staffing (e.g., number, qualifications, absenteeism, etc.); school culture (e.g., attendance, class size, promotion/retention, violence, etc.); and fiscal resources.

Figure 6 represents the explicit requirements of the NCLB Act. However, a simple statement on whether the school has been identified for improvement should be expanded upon. Listing out the categories where AYP was met and not met, providing information on how a school has made progress in its lowest achieving subgroups, and presenting a plan for the school to improve all provide the contextual information a parent would need to understand the designation identified for improvement. A discussion on reporting the AYP results is located in the last section of this chapter.

Summarizing Accountability Information for a School or District Report Card

This chapter has focused on specific content requirements of the NCLB Act accountability reports. The sample report pages and description of indicators defined by NCLB law and regulations highlighted the information needed to determine a school or district's status. However, another key concern in designing accountability report cards is how to present summary information about the status of a school or district to make it easily reported and understood by parents and the public.

From the perspective of the public, the key question in relation to accountability with NCLB is the summary judgment about their school, or district, i.e. Does it "make the cut"—Adequate Yearly Progress (AYP)? or Does it not make annual AYP? Is it "identified for improvement"? If so, What is being done to help? The critical summary information about a school or district can be organized in three categories:

1. **Outcome**
   - Yes (made AYP) vs. No (did not) for prior school year
   - Number of consecutive years not made AYP
2. **Reason**
   - Number of indicators met vs. Number not met for the school year reported
   - List of indicators Not met
3. **Consequences**

   If AYP is not met, whether the school is eligible for Public School Choice or School Improvement (including corrective action, restructuring, etc.)

   e.g., Choice: Students in this school may choose to transfer to another public school in the district.

Because this summary information is paramount for many stakeholders, one reporting strategy is to place the summary results on the front page of the report card. This allows a parent, lay person, or educator to quickly gain an overall picture of where the school or district stands in relation to accountability requirements under NCLB, as well as gauging how well/poorly the school or district is performing across the indicators, and what will happen during the coming school year.

For summary information, such as the names of schools within a district that are in need of improvement (including correcting action, restructuring, etc.) and the length of time that these schools have had that status, a simple table will work best. Smaller agencies could list all schools and indicate AYP information for each one. Larger agencies may be better served by a summary with only identified schools/LEAs.

Finally, to provide a positive, action-orientation to the report card format, one additional summary category should be included on the cover of the report or close to the front:

4. **Actions Toward Improvement**

   Primary resources and programs aimed toward gaining AYP

In the initial phases of developing report cards, it may not be possible to simultaneously report the indicators and summary results from the prior school year as well as the all the various programmatic responses planned by the school or district. However, it should be possible to incorporate in the report card highlights which major categories of state or district funding will be available to assist the school/district and which programmatic initiatives will be applied in the coming school year to address the areas of low performance. This additional category will help move accountability reporting in the direction of communication and problem-solving rather than simply statistics.

The four summary reporting categories about the school or district should be followed by a table of contents which relates the data for each separate indicator to the summary results, and helps guide the reader to subsequent sections of the report card for further detail.

Chapter 3: How to Design

As the process for communicating the information required by NCLB is developed, whether in a paper report, on the web, or both, specific universal design principles should be noted. Good report design represents clear thinking on the part of its author(s). An effective accountability report is:

- Easy to read and clearly states a well-defined message that stakeholders can understand and use;
- Accessible to the target audiences, both physically and linguistically;
- Accompanied by adequate interpretive information;
- Supported by evidence that the indicators, other information, and suggested interpretations are valid;
- Coordinated with other reports within the reporting system:
  - Across paper and electronic versions of report cards, and
  - Across reports cards and assessment reports.

Effective reports are clear, easy to understand, and memorable. Every mark on the page should be as small but as clear as possible. In other words, minimize unnecessary ink on the page—words, numbers, pictures, graphics, lines—and allow less necessary elements—lines on tables for example—to recede into the background by making them as pale as possible. Finally, as discussed, in addition to making sure report is cohesive in terms of both substance and message with other reports. It also helps if they have a similar "look" in terms of graphics, color, and overall design.

This discussion is organized into three sections:

- **Crafting the language** so that it is clear and easily understood;
- **Using graphics** to highlight important information without cluttering the page or distracting the reader; and
- **Aligning the report cards with other documents**, such as Spanish-language versions of the report card or interpretive information about the assessment system.

The overarching message across all of these sections is this: make sure these reports are assessable to the average person. While designing the reports, ask, "Would my neighbor understand this?" Make sure the answer is yes.

Crafting the Language

Once the overall messages for the report card have been determined, but before the text is written, it is important to think about the audience. Certainly, with a wide variety of stakeholders who will be motivated to look at a report card, the document must contain a wide range of information about a school, a district, or the state that is presented in a clear and easy to read format, free of jargon (both verbal and numerical), and points to sources of other relevant information. And, it is important to keep in mind that the target audiences represent a wide range of linguistic diversity, technical sophistication, access to and comfort with technology, and motivation to seek out and act on information about their schools. This means that the language must be crafted so that parents with no experience with educational terminology or evaluation concepts can understand the message, while at the same time it rings true to seasoned professional educators.

Consider:

- The language used within a report card should be jargon-free. **Do not use**:
  - Lingo, like "disaggregated", "standards-based test", "alternate assessment", "performance index", or any idiomatic words or terms, without providing a clear, brief definition;
  - Acronyms, like "FARMS", "AYP", "FTE", "CRT", or any variable abbreviations, without first spelling them;
  - Statistical or psychometric terms, such as "chi-square", "p-value", "theta", or "coefficient", unless absolutely necessary—the best way to demonstrate technical sophistication is by explaining a complex concept simply and elegantly to an unsophisticated reader; and
  - Statistics that are unnecessary to the message.
- The report card might not include much non-indicator text, especially since some indicators may be narrative. However, whatever text is provided should be easy to read and understand:
  - Use a combination of sentence lengths and avoid long and/or overly-punctuated sentences;
  - Keep paragraphs short. At most, five sentences or two inches long;
  - Use an active voice rather than a passive one;
  - Surround text by white space; and

try this

Which of the lines below is easiest to read?

Use a font that is easy to read and doesn't distract or confuse. Think about how numbers, such as 1, 3, 5, 7, and 8, appear in the text.

Use a font that is easy to read and doesn't distract or confuse. Think about how numbers, such as 1, 3, 5, 7, and 8, appear in the text.

USE A FONT THAT IS EASY TO READ AND DOESN'T DISTRACT OR CONFUSE. THINK ABOUT HOW NUMBERS, SUCH AS 1, 3, 5, 7, AND 8, APPEAR IN THE TEXT.

Use a font that is easy to read and doesn't distract or confuse. Think about how numbers, such as 1, 3, 5, 7, and 8, appear in the text.

— Choose a font that is easy to read:

- avoid boldface except in headings and to highlight specific words or phrases,
- don't combine font styles, such as boldface and italics, except perhaps for some headings,
- choose fonts that are easy to read, and that reproduce well,
- use as few fonts as possible, and
- carefully use color to illustrate points rather than to distract from them.

– Subject the text to multiple reviews:
  - Use the design team to review the text for readability and clarity; and
  - Have teachers and parents connected with a diverse range of schools read the text and provide feedback.

Using Graphics

Because NCLB requires such a large amount of information to be conveyed, it is important to carefully choose how to display data elements. When used well, graphics can be a striking tool to illustrate messages in the report. The decision on how to present the data is the difference between a report that complies with the law, and one that shares a message about student achievement across groups and schools. Among the most common graphic forms are simple bar charts or histograms, which are useful for illustrating either the frequency of a characteristic across groups (e.g., number or proportion of students in each racial/ethnic category or the proportion of students scoring in each performance level) or a trend over time (e.g., a school's mean reading score for each of five years).

For example:

When deciding whether to use a graph or a table, consider whether the space and ink used in the picture (like Figure 8) is necessary compared to the amount of information that could be conveyed in the same space in a table (like Figure 9).

Figure 8

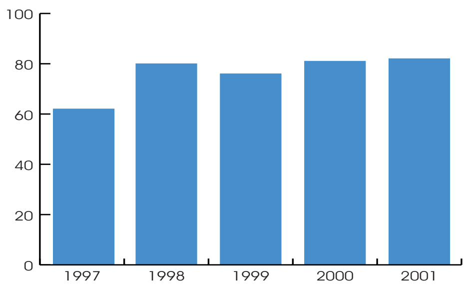


Figure 9

	1997	1998	1999	2000	2001
Reading	62	80	76	81	82
Math	58	67	69	73	75
Writing	53	56	56	55	58
Science	60	65	72	73	72
History	64	67	68	66	73

Figure 10

	Basic	Proficient	Advanced	% Basic
2001	18	63	19	
2000	19	59	22	
1999	24	55	21	
1998	20	55	25	
1997	38	44	18	

Building on this idea, consider combinations of tables and pictures, such as in Figure 10. In about the same amount of space used for the bar chart (Figure 8), Figure 10 graphically indicates the proportion of students scoring at or above the proficient level for each of five years and also provides numerically the proportion of students in each of the three performance levels. Further, the simple horizontal line to represent the total scale with the tick mark to indicate the proportion above and below the proficient cut score allows quick comparisons between performance and the goal (100% proficient and above) as well as across years. The black subline to reflects the confidence interval around each score.

This example shows how a few modifications in the approach to representing data, both numerically and graphically, can make a big difference in how much information can be provided in a limited space and how easy it will be for stakeholders to see what's important.

Some general rules:

- Graphical displays should reflect the critical elements of the message and on what readers should focus. As such, they should be used sparingly and strategically.
- Graphs are good for reporting trends, but not for conveying the actual numbers behind them.

- The more complex a concept is, the more likely a good graph can help convey it.
  - If a series of numbers can be described in one sentence without any qualifiers, don't graph these numbers.
  - Change over time is more interesting than status. Changes in proportion across groups over time are more interesting than change over time. Changes in proportion across groups over time in relation to a common standard are more interesting than changes in proportion across groups over time.

How to Graph

Once the decision is made on what to graph, it is necessary to begin to think about how to graph:

- Graphic displays do not have to take up a whole page, or even a significant portion of a page. In fact, bigger is usually not better. Rather than using a large proportion of the page with a graph, consider using a series of smaller graphs to highlight comparisons across time or groups.
- Do not accept the limits of graphic programs. If it is the best way to make the point, and someone can draw it, it can be programmed.
- Completely integrate graphics with words and numbers on the page. Embed them within the right context rather than in an appendix or on a separate page.
  - If the graphic might be useful for a stakeholder as a slide in a presentation, offer it electronically or create a separate toolkit with enlarged versions of graphics for this purpose.
- Create a stylebook which defines how each graphic should look: specify font styles and sizes, use of color and pattern, etc. For best results, create templates for each graphic and distribute these templates electronically to anyone who may need to produce graphics for these reports.

The following four examples help illustrate these points.

Example A

Earlier in this section, a graphic illustrated these scores, the proportion of students scoring at or above the proficient level on the test indicated for each of five years. Figure 11 is an example of how **not** to graph these numbers.

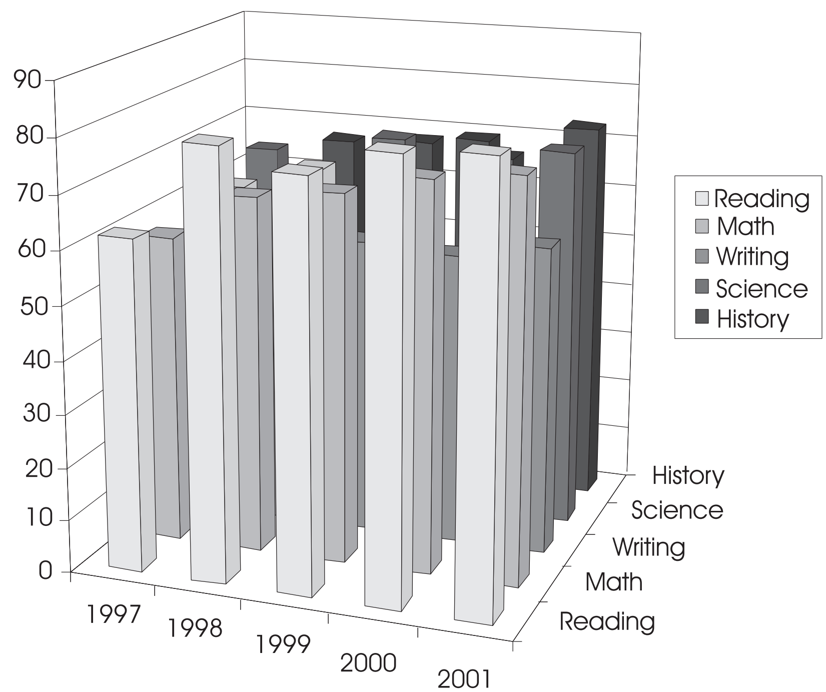
	1997	1998	1999	2000	2001
Reading	62	80	76	81	82
Math	58	67	69	73	75
Writing	53	56	56	55	58
Science	60	65	72	73	72
History	64	67	68	66	73

Clearly this graphic does not tell the story. In fact, it's difficult to understand anything in this graph.

Consider the following:

- There is little reason to use 3-D (three dimensional) graphics in the two-dimensional space of paper.
- There is so much information in this graphic that some of the columns are hidden.
- The background shading does not add anything to the graphic. Use as little color as necessary, and none on the background of graphics, if possible.
- The gridlines are distracting. If they must be used, do so sparingly and use as little color as necessary to show them.
- The legend is redundant. As part of the goal to integrate words, numbers, and images, try to just name columns, bars, or lines directly.

Figure 11



An alternate way to handle this type of complex data is to use a table. In figure 12, notice that the gridlines are not black—the horizontal lines have been lightened to reduce distraction from the numbers—and some vertical lines have been deleted altogether. This table shows the proportion scoring above and below the proficient cut point. However, to save even more space, consider only listing one of these columns, since they should always add to 100. An alternative would be to list the proportions at or above proficient and the proportion scoring in the lowest level, if this level is not adjacent to proficient.

Figure 12

	1997		1998		1999	
	Below	Above	Below	Above	Below	Above
Reading	38	62	20	80	24	76
Math	42	58	33	67	31	69
Writing	47	53	44	56	44	56
Science	40	60	35	65	28	72
History	36	64	33	67	32	68

Or, in order to highlight changes in proportion over time, a table can contain small graphics similar to the first example in this section. In Figure 13, a simple gray line to reflect the total (100%) and a black block to represent the proportion of students at or above proficient. By flipping the table, it is easy to make comparisons across years by running the eye down the column for each content area. The reader can also make comparisons across content areas, though not as easily.

Figure 13

		Reading	Math	Writing	Science	History
2001	Above	82	75	58	72	73
	Below	18	25	42	28	27
2000	Above	81	73	55	73	66
	Below	19	27	45	27	34
1999	Above	76	69	56	72	68
	Below	24	31	44	28	32
1998	Above	80	67	56	65	67
	Below	20	33	44	35	33
1997	Above	62	58	53	60	64
	Below	38	42	47	40	36

Example B

If planning to use a pie chart, make sure this is the best option to present the data, and also make sure the graphic is easily readable. In the example below, the large number of sections results in visual confusion with multiple arrows and labels. Consider using another chart, such as the bar chart in Figure 15. The pie chart might better illustrate indicators with fewer elements.

Figure 14

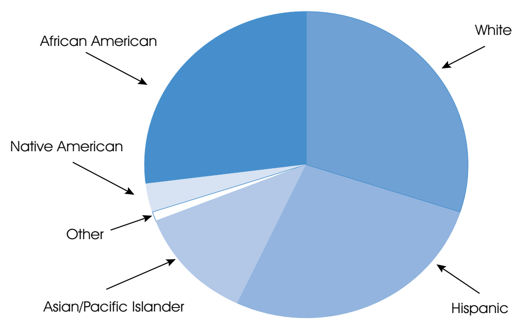


Figure 15

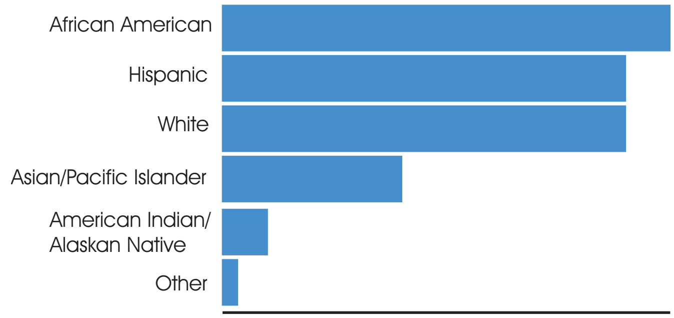


Figure 16

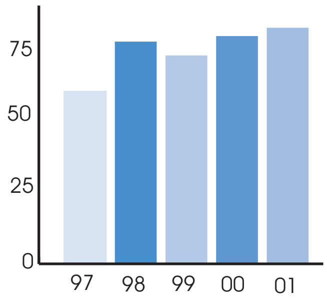
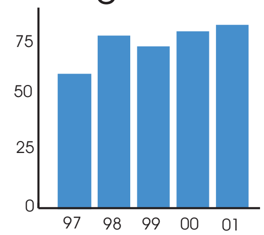


Figure 17



Example C

If a bar chart or histogram is chosen to illustrate the data, consider the following:

- As fully as possible, integrate the words and numbers with the image.
- Get rid of the unnecessary characters, such as percent signs. Just label the chart as one representing proportions.
- Use as few ticks as possible to break up the scale. 25, 50, 75 may be enough; maybe just 50.
- Use as little color, pattern, and ink as possible to illustrate the point.
- Consider reducing the width of the bars. This helps to see the comparison and save space. It may be necessary to use fewer labels on the x-axis to fit with the reduced amount of space.

- Make the chart wider than it is tall. Both Figures 16 and 17 are proportioned this way—the one on the bottom is about as narrow as it could get without appearing out of balance.

Notice how Figure 17 uses less space, ink, and color, yet still is able to convey the message.

Example D

A big design decision for accountability reports has to do with the use of color. When used strategically, color can enhance a report by drawing attention to critical information. However, caution should be used when planning whether and how much color to employ:

- First, color can be distracting. In Figures 18 and 19, the two column charts are identical except for the color of the columns. In Figure 18, each column is a different shade; in Figure 19, all columns are one color. Further, when colors in charts are very bright, they become distracting, making it difficult to discern the differences in the height of the bars.

  Even with categorical data that might be clumped together—such as scores for each of five schools for each of four years—it is not necessary to use a different color for each school. As long as the number of schools represented in the chart small, order of appearance is enough for a reader to be able to identify the pattern.

  Of course, an even easier alternate might be to present the four years of data grouped for each school.

Figure 18

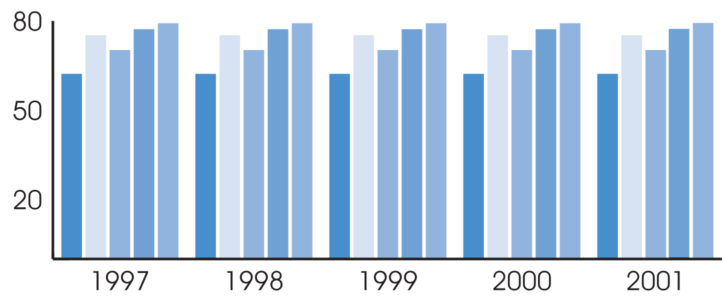
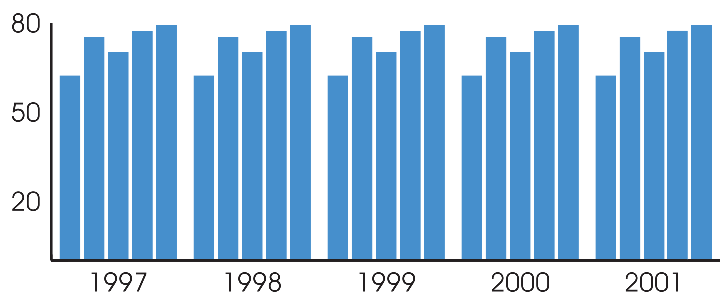


Figure 19



- Second, the possibility exists that people might make photocopies of the report, or print a web report without a color printer, so it is important to color the graphic in such a way that the distinction will be clear in a black/white copy. Also, each additional color usually increases the print costs of the document.
- Third, many popular colors—including red—are difficult for some readers to see clearly. Thus, color can, again, reduce readers' accessibility to the report's information.

If using color in the reports, consider the following:

- Consider designing the document using only one color besides black. Shades of these two colors provides a wide range of possible combinations for graphs and accents.

- Especially since the report could be photocopied to black/white, consider using white or off-white paper for the background of printed reports. It provides a strong contrast for text and graphics, and will not discolor when copied.

- Test printed reports by photocopying them on copiers of varying quality. Make sure color, text, and graphics transfer to copies in a way that doesn't affect the amount or quality of the information the report is meant to convey.

- Test web reports by printing them out on printers of varying qualities—including some that are color and some that are not.

Conclusion: Aligning Report Cards With Other Documents

Report cards are both stand–alone documents and part of a larger system for providing information to stakeholders. As stand–alone documents, report cards should present a full story by themselves. Stakeholders—especially parents and the public—should not have to search for essential information. Paper reports should be self–contained and accompanied by necessary interpretive information; web-based reports should include links to both extra information (e.g., brief definitions, prompts, etc.) and other documents.

In planning the accountability reporting system, consider the following :

- Report cards must be accompanied or supplemented by other documents that support their use. For example:
  - Non–English–speaking parents and stakeholders must have access to the same information as English–speakers. Depending on local needs, it may be necessary to produce versions the report cards in other languages, provide supplements, inserts, or links for the report card in other languages, or support local translations of some report card information;
  - Directions to additional information should be embedded within the report cards; and
  - Professional development materials for educators should include information about the report cards and how to interpret them.
- The report cards must be aligned with assessment reports. This is not an additional burden; in fact, good alignment between the accountability and assessment reporting systems will save each time and trouble.
  - Accountability reports should refer to the assessment reports and to the information about the tests that is typically included in parent, student, and educator brochures. There is no need to duplicate information about the tests when that information is already available in an easily-accessible document.
  - Assessment reports and brochures (e.g., the informational and interpretive documents that describe the assessment program for parents, students, community members, and educators) should refer to the accountability system and reports. That is, after all, where the stakes for the assessment lie.
- Some stakeholders refer to report cards for specific analytical purposes, such as policy analysis, program evaluation, and needs analyses. Since the report card system can only accomplish so many things at once, consider:

- Providing, upon request, electronic data files that include report card indicators or the data on which they are based (e.g., teacher-pupil ratio v. number of teachers and number of students) for evaluators and researchers;
- Producing briefs on policy issues and programs that are explicitly linked to the information that appears in the report cards—or link existing reports explicitly to this information; and
- Producing briefs for specific audiences (e.g., the media) that succinctly summarize accountability information in two pages or less.

It is key to ensure not only that accountability reports meet the requirements put forth in the No Child Left Behind Act of 2001, but that they communicate to a wide variety of stakeholders the values, expectations, and achievements of the community's students. The design of clear and succinct reports can accomplish this aim, and successfully drive stakeholders to action on behalf of these students.

Appendix A

Reporting Requirements

This Appendix provides a series of tables describing reporting requirements under NCLB. Please refer back to the text for suggestions on how these indicators can be reported effectively.

A1: NCLB Report Card Reporting Requirements

Under the NCLB Act, States and school districts (LEAs) are required, not later than the beginning of the 2002-03 school year, to prepare and disseminate annual report cards. Requirements for the data elements to be reported are set forth under section 1111(h) of the law and summarized in this figure. Although schools are not required to prepare and disseminate their own reports, information about whether a school has been identified for improvement and how a school's students are achieving must be included in the State and school district reports.

States must also report annually, beginning with school year 2002-03, to the Secretary of Education information on their progress related to requirements set forth in section 1111(h)(4).

States and school districts reports are required to be concise and presented in "an understandable and uniform format and, to the extent practicable, provided in a language that parents can understand" (sections 1111(h)(1)(B)(ii) and 1111(h)(2)(E)). Additionally, school district reports must be made "widely available through public means such as posting on the Internet, distribution to the media…" (section 1111(h)(2)(E)).

Items to be Reported	State Report Card 1111h(1)C	LEA Report Card 1111h(2)	School Report Card 1111h(2)B	Annual Report to Sec. 1111h(4)
Assessment Information				
For each grade and subject tested: (1) percentage of student assessed and (2) information on students at each state defined proficiency level, in the aggregate and disaggregated[1,4] by:	X	X Compared to state	X Compared to state and district	X
Gender[2]	X	X	X	
Major Racial and Ethnic Group	X	X	X	X
English Proficiency Status	X	X	X	X
Migrant Status[2]	X	X	X	
Students with Disabilities	X	X	X	X
Compared to Non-disabled students	X	X	X	X
Economically Disadvantaged	X	X	X	X
Compared to Non-Economically Disadvantaged	X	X	X	X
Most recent 2 year trend in each subject and grade level in student achievement[3]	X	X	X	X
State's progress in developing required assessments				X
Accountability Information				
Comparison between the actual achievement for each group[1,4] and the State's annual objectives for AYP: All Students Economically Sisadvantaged Major Racial and Ethnic groups Students with Disabilities Limited English Proficiency Students	X	X	X	
Aggregate and disaggregate[2] information on other academic indicators that the State has selected for AYP: Including graduation rate for secondary and an academic indicator for Elementary, Middle schools	X	X	X	
Aggregate information on any additional indicators the state may use to determine AYP	X	X	X	
Performance of LEAs regarding achieving AYP	X	X		
Number of Schools identified for improvement	X	X		X
Names of Schools in improvement	X	X		X
Percentage of Schools identified for improvement		X		
How long the Schools have been identified for improvement		X		
Whether school has been identified for improvement			X	
Reason(s) school was identified for improvement			X	X
Measures taken to address achievement problems of Schools identified for improvement				X

Items to be Reported	State Report Card 111h(1)C	LEA Report Card 1111h(2)	School Report Card 1111(2)B	Annual Report to Sec. 1111h(4)
Teacher Information[5]				
Professional qualifications of teachers as defined by the state	X	X	X	X
Percentage of teachers teaching with emergency or provisional credentials	X	X	X	
Percentage of classes taught by highly qualified teachers in the state, LEA, and school				X
Percentage of classes in the state not taught by highly qualified teachers (aggregate and in the highest and lowest quartile schools based on poverty)	X	X	X	
English Language Proficiency				
Information on the acquisition of English proficiency by LEP students			X	
Supplemental Services and School Choice				
Number of students and schools that participated in supplemental services and public school choice				X
Time Line				
	Not later than the beginning of the 2002-2003 SY			Beginning with school year 2002-2003

[1]Except that such disaggregation shall not be required in a case in which the number of students in a category is insufficient to yield statistically reliable information or the results would reveal personally identifiable information about an individual student

[2]Not required for Adequate Yearly Progress

[3]In any year before the State begins to provide information described above, information on the results of student academic assessments

[4]Including students who are enrolled in a school or LEA for a full academic year, as defined by the state.

[5]Sec. 1119 a/b requires reports on schools, LEAs, and the state—regarding meeting measurable objectives related to the percentage of highly qualified teachers in core academic subjects: English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography.

Major racial and ethnic subgroups: African American/Black, Asian/Pacific Islander, American Indian/Alaskan Native, Hispanic, White

A2: Non Public Reports Required by the No Child Left Behind Act

Individual student report (ISR) A single report that provides detailed information to students, parents and teachers on the performance of each student in each content area assessed. Summary Reports A series of reports at the classroom, school, district, and state level that provides summary statistics, such as average scale scores and the percent scoring in each proficiency level Technical Reports Annual reports on the activities and analyses for the most recent previous testing cycle, including documentation of the development and analyses processes for the most recent test administration, and evidence in support of the technical quality of the test.

A3: Highly Qualified Teacher as Defined in the NCLB Act

Highly Qualified Teacher Definition

General Requirements [1]:

When used with respect to any public elementary school or secondary school teacher, refers to a teacher that—

- Has obtained full state certification, which may include certification by alternative routes;
  or
- Has passed the state licensure examination and holds a license to teach in the state; and
- Has not had certification waived on an emergency, temporary or provisional basis

Note: Teachers in public charter schools must meet the requirements of the state's public school charter law.

Additional Requirements

A New Elementary School Teacher:

- Bachelor's degree; and
- Pass a "rigorous" state test of subject matter knowledge and pedagogy in reading, writing, mathematics, and other subjects of the elementary school curriculum

A New Middle or Secondary School Teacher:

- Bachelor's degree; and
- Pass a "rigorous" state test in each of the academic subjects in which the teacher teaches;
  or
- Successfully completing in each academic subject taught:
  - An undergraduate major
  - Graduate Degree
  - Coursework equivalent to an undergraduate major
  - Advanced certification or credentials

An Elementary, Middle, or Secondary Teacher who is not new to the profession:

- Bachelor's degree; and
- Meet the applicable requirements for teachers new to the profession;
  or
- Based on a high, objective, uniform State standards of evaluation demonstrates competency in each academic subject in which the teacher teaches[2]

[1]A teacher meets the requirements listed if the teacher

- Has fulfilled the State's certification and licensure requirements applicable to the years of experience the teacher possesses or
- Is participating in an alternative route to certification program under which:
  - The teacher receives high-quality professional development that is sustained, intensive, and classroom focused in order to have a positive and lasting effect on classroom instruction, before and while teaching;
  - Participates in a program of intensive supervision that consists of structured guidance and regular ongoing support for teachers or a teacher mentoring program;
  - Assumes functions as a teacher only for a specified period of time not to exceed three years;
  - Demonstrates satisfactory progress toward full certification as prescribed by the state;
  - The state ensures, through its certification and licensure process, that the above provisions are met.

[2]Demonstrated competence in all academic subjects the teacher teaches based on a high objective, uniform state standard of evaluation that:

- Is set by the state for grade appropriate academic subject matter and teaching skills
- Is aligned with state academic content and student achievement standards and developed in consultation with core content specialist, teachers, principals, and school administrators
- Provides objective, coherent information about the teacher's attainment of core content knowledge in the academic subject taught
- Is applied uniformly to all teachers in the same academic subject and grade level throughout the state
- Takes into consideration, but is not based primarily on, the time the teacher has been teaching the subject
- Is made available to the public upon request
- May involve multiple objective measure of teacher competency

Sources:
Title IX, Section 9101 of the Elementary and Secondary Education Act
Title I, Section 1111 of the Elementary and Secondary Education Act
Final Regulations, Title I-Improving the Academic Achievement of the Disadvantaged
CCSSO, No Child Left Behind, A Description of State Responsibilities

Note: Highly Qualified Teacher applies to all "core academic subjects": English, reading or language arts, mathematics, science, foreign languages, civic, government, economics, arts, history, and geography.

A4: Graduation Rate as Defined in the No Child Left Behind Act

200.19 Other Academic Indicators

(a) Each state must use the following other academic indicators to determine AYP:

(1) High Schools. (i) The graduation rate for public high schools, which means–

(A) The percentage of students, measure from beginning high school, who graduate from high school with a regular diploma (not including an alternative degree that is not fully aligned with the State's academic standards, such as a certificate or a GED) in the standard number of years; or

(B) Another definition, developed by the State and approved by the Secretary in the State plan, that more accurately measures the rate of students who graduate from high school with a regular diploma as defined above

(ii) In defining the graduation rate, the State must avoid counting a dropout as a transfer.

A5: Program Evaluation reports

Report	Due
Reading First: Title I Part B Section 1202 (d) (5) (C)	Annual for States Awarded Funds
Migrant Students: Title I Part C Section 1308 (b)(4)(A&B)	Due April 30, 2003
Neglect and Delinquent Program: Title I Part D	Once every 3 years
Advanced Placement Programs: Title I Part G	Annual
Drop Out Prevention Programs: Title I Part H	Annual, beginning after the first fiscal year an EA receives a grant
Math and Science Partnerships: Title II Part B Section 2202 (f)	Annual
Language Instruction for LEP and Immigrant Children: Title III Section 3121	Every Second Year
Professional Development Grants: Title III Subpart 3	Every 2 years (no report until funded
Safe and Drug Free Schools: Title IV Part A	December 1, 2003 and every 2 years thereafter
Innovative Programs: Title V Part A	Annual
Public Charter Schools: Title V Part B	Annual

A6: Notice of Identification for Schools in Improvement, Corrective Action and Restructuring

If an LEA identifies a school for improvement or subjects the school to corrective action or restructuring, the LEA must promptly notify the parents of each child enrolled in the school of this identification.

The notice must include the following:

- An explanation of what the identification means, and how the school compares in terms of academic achievement to other elementary and secondary schools served by the LEA and SEA involved.
- The reason for identification.
- An explantation of how parents can become involved in addressing the academic issues that led to identification.
- An explanation of the parent's option to transfer their child to another public school, including the provision of transportation to the new school.
  - The explanation of a parents option to transfer must include, at minimum, information on the academic achievement of the school or schools to which the child may transfer; and
  - The explanation may include other information on the school or schools to which the child may transfer.

If the school is in its second year of improvement or subject to corrective action or restructuring, a notice must be provided explaining supplemental educational services for their child.

The annual notice of the availability of supplemental educational services must include at minimum:

- The identity of approved providers of those services available within the LEA, including providers of technology-based or distance-learning supplemental educational services, and providers that make services reasonably available in neighboring LEAs
- A brief description of the services, qualifications, and demonstrated effectiveness of the providers

Information About Action Taken:

An LEA must publish and disseminate to the parents of each student enrolled, and to the public information regarding any action taken by a school and the LEA to address the problems that led to the LEA's identification of the school for improvement, corrective action, or restructuring.

The information must include the following:

- An explanation of what the school is doing to address the problems of low achievement
- An explantation of what the LEA or SEA is doing to help the school address the problems of low achievement.

Appendix B

Concepts and Questions Related to Reporting Effectiveness

Planning/preparation for reports includes all prerequisite activities:

- Data collection
- Data management
- Data analysis
- Report design
- For paper reports, setting specifications such as size, weight, texture of paper
- For web-based reports, construction of
  - data structures
  - templates for dynamic reports
  - snapshots of the non-interactive reports
  - interfaces that will enable your stakeholders to view and use the reports.
- Training of staff to handle information requests that come in by phone, fax, mail, or the web

Implementation includes:

- For paper reports, printing and mailing/shipping, including
  - storage systems that allow staff members to easily access paper documents
  - clear protocols for mailing/shipping reports
- For web-based reports, opening access or "going live"
- The implementation of support systems needed to provide for the appropriate interpretation and use of the reports, such as phone lines that:
  - During business hours reach live staff members who can answer questions and mail requested documents
  - Provide basic recorded information at all times

Appendix C

NCLB Reporting and Design Resources

This Appendix provides a list of resources on design principles, the reporting requirements of NCLB, and others. Check the Council of Chief State School Officers' web site, **www.ccsso.org**, for a frequently updated list of additional resources

A-Plus Communications. (1999). Reporting results: What the public wants to know. [On-line] http://www.ksaplus.com/ksa/EdWeek%20Results.pdf

Bers, T. H., & Seybert, J. A. (2000). Effective reporting. Association for Institutional Research.

Council of Chief State School Officers. (2002) No Child Left Behind Act: A Description of State Responsibilities. Washington, DC: CCSSO. [On-line] http://www.ccsso.org/pdfs/NCLB2002.pdf

Council of Chief State School Officers. (2001). Handbook for professional development in assessment literacy. Washington, DC: CCSSO.

Council of Chief State School Officers, Accountability Web Page. http://www.ccsso.org/accountability1.htm

Diggle, P.J. Liang, K-Y and Zeger S.L. (1994). Analysis of longitudinal data. Oxford Science Publications.

Gong, B. (2002). Designing school accountability systems. Council of Chief State School Officers. [On-line] http://www.ccsso.org/pdfs/designing_school_acct_syst.pdf

Jaeger, R. M. & Tucker, C. G. (1997). Analyzing, disaggregating, reporting, and interpreting students' achievement test results: A guide to practice for Title I and beyond. Washington, DC: Council of Chief State School Officers. [On-line] http://www.ccsso.org/pdfs/analyze.pdf

Klass, G. Presenting Data: Tabular and graphic display of social indicators. [On-line] http://lilt.ilstu.edu/gmklass/pos138/datadisplay/

KSA-Plus Communications. (2002, June). Hounded by bad news? Write your own headlines with your school accountability reports. (includes report examples)

Northern Illinois University, Division of Public Administration. Graphics and public management. [On-line] http://www.niu.edu/pub_ad/p512/graphics2.htm

Tufte, E. R. (1990). Envisioning information. Cheshire, CT: Graphics Press.

Tufte, E. R. (2001). The visual display of quantitative information. Cheshire, CT: Graphics Press.

Tufte, E. R. (1997). Visual explanations: Images and quantities, evidence and narrative. Cheshire, CT: Graphics Press.

U.S. Department of Education. (2002). No Child Left Behind Web Site, www.nochildleftbehind.gov.

Wainer H. Rounding tables. Chance, new directions for statistics and computing, 11: 46 – 50.

Copies of this report may be ordered from:
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