Forum Guide to Building a Culture of Quality Data

National Cooperative Education Statistics System

The National Center for Education Statistics established the National Cooperative Education Statistics System (Cooperative System) to assist in producing and maintaining comparable and uniform information and data on early childhood education and elementary and secondary education. These data are intended to be useful for policymaking at the federal, state, and local levels.

The National Forum on Education Statistics, among other activities, proposes principles of good practice to assist state and local education agencies in meeting this purpose. The Cooperative System and the National Forum on Education Statistics are supported in these endeavors by resources from the National Center for Education Statistics.

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Forum Guide to Building a Culture of Quality Data

Introduction

Quality data, like quality students, come from schools. While it is undeniably harder to teach a student than it is to collect statistics, there are procedures that can help us achieve our goals in both cases. Recently, there has been a growing awareness that effective teaching, efficient schools, and quality data are linked. The quality of information used to develop an instructional plan, run a school, plan a budget, or place a student in a class depends upon the school data clerk, teacher, counselor, and/or school secretary who enter data into a computer. With that in mind, the focus of this guide is on data entry — getting things right at the source.

Orderly Information From Disorderly Settings

Data often enter electronic systems from a school or school district office, which may not be an optimal setting for paying careful attention to numbers. Office staff members are expected to perform many tasks, from greeting parents to answering the phone, sorting the mail, producing memos, and bandaging wounded knees. While all these things are going on, often simultaneously, staff members are expected to fill out forms and enter data into computers. During conference periods in classrooms when teachers are trying to enter attendance information or grades into computers, the situation can be just as busy.

We want trained data entry personnel who work in an environment that assists, not hinders, data entry. When people are doing important work, we want them to concentrate on the task. We do not expect, for example, the person preparing our tax returns to be eating lunch or talking on the phone with clients while entering our itemized deductions into a computer. However, those may be the conditions of a school secretary's life. And remember, bad data about a student or school can cause bigger problems than a lost tax refund.

It is important to understand that "quality data" is not something that just occurs when an office clerk hits the right number on a keyboard. It is a process. We need to pay attention to the process involved because the information derived from school data is vital. The intent of data entry and collection is to produce information that reflects reality — that lets us know what is actually happening in a school. It is important for all staff members to understand the issues involved in data collection and data entry and to recognize that those issues reflect the values of the organization. Based on an analysis of these processes, we can work toward developing a "Culture of Quality Data" that will result in good information.

What Is a Culture of Quality Data?

A Culture of Quality Data is the belief that good data are an integral part of teaching, learning, and managing the school enterprise. Everyone who has a role in student outcomes — teachers, administrators, counselors, office support staff, school board members, and others — shares this belief. Because good data are as much a resource as staff, books, and computers, a wise education system is willing to invest time and money in achieving useful information and respects the effort taken to produce it.

Who Has to "Buy Into" a Culture of Quality Data?

Everyone in the education community has a stake in getting and using reliable information. Decisions made from the classroom to the principal's office to the state legislature depend on the quality of the data. For example, good information makes it possible for

- teachers to make the right decisions about their students' instructional needs;
- principals to track student and teacher progress, and feel confident that goals are being met or that they are alerted to problems that impede progress;
- district personnel to apportion staff or other resources where and when they are needed most;
- relocating families to select communities with schools that meet their expectations;
- state legislatures and the U.S. Congress to know when resources actually make a difference in education; and
- state departments of education to plan and manage effective programs.

What Are the Components of a Culture of Quality Data?

Everyone whose job touches students has a role in ensuring data quality. When a school or district embraces a Culture of Quality Data, it shows its concern in the following major areas:

- *Accuracy.* The information must be correct and complete. Data entry procedures must be reliable to ensure that a report will have the same information regardless of who fills it out.
- *Security.* The confidentiality of student and staff records must be ensured, and data must be safe.
- *Utility.* The data have to provide the right information to answer the question that is asked.
- *Timeliness.* Deadlines are discussed and data are entered in a timely manner.

Collaborating Across Agencies

Schools and districts aren't the only players with a stake in quality data. State education agencies (SEAs) also need quality data to assist in the decisionmaking process. Usually, an SEA does not have complete control over the quality of the data received. We aren't recommending that more rules and regulations will improve the quality of data! We believe instead that good data flourish where there is collaboration among staff in SEAs, districts, and schools. Through this collaboration, SEAs will receive greater cooperation from data providers, and data providers will find their lives to be a little easier.

Data quality will improve when

- SEAs collaborate with district data coordinators to establish sound, practical procedures for data collection and reporting;
- departmental data requirements are reduced by consolidating requests for reports through interagency cooperation within SEAs; and
- new data elements are created using interagency standards.

Some SEAs have published guidelines to assist their districts. For example, in 1999, the Virginia Department of Education produced *Procedures for Data Collection and Reporting.* The procedures in this manual emphasize careful planning before responding to requests for information, with a concerted effort on the state's part to reduce redundant data collections. Virginia recognizes that it is important for the SEA to consider the burden of data collection on districts and schools whenever requesting additional information.

The task force that produced this document recognizes the importance of SEAs and federal program offices in setting policies and establishing procedures for collecting data from districts. However, the focus of this guide is a little different. This guide highlights the roles of school and district personnel in achieving quality data at the point where data are initially gathered and entered.

Putting the Pieces Together

Individual staff members within your school or district hold the pieces of a puzzle that can fit together to develop a Culture of Quality Data. The following pages suggest some processes a school or district can institute to foster a Culture of Quality Data. We do not believe that a "one-shot" directive to staff telling them to be more accurate will be successful. Building quality data is a process that requires collaboration and a clear understanding of interdependent roles.

It is the intent of this guide to point out some common principles that can increase the likelihood that data will be secure, accurate, and useful. There is no magic in our suggestions, but we can promise that attention to details at the point of data entry will improve data quality. Getting there deserves the effort because quality data ultimately lead to better education.

This guide includes tip sheets describing the roles of various school district personnel who are prominent in providing and using information. You may want to duplicate the tip sheets or print additional, individual copies from the Forum website at http://nces.ed.gov/forum/pub_2005801.asp so that each person can retain a copy of the appropriate suggestions. Additionally, the website has a PowerPoint™ presentation that can be used to supplement the report and the tip sheets.

Helping a School Achieve Quality Data

The best place to start looking at the data collection process is the moment of data entry. Most of us understand that, in the education community, this moment usually takes place in a school. We also know that data entry happens at many places inside the school. Data entered into a computer system might include teacher demographics, certification, attendance, and grades — all entered in a busy environment such as a school office, classroom, or conference room. Nurses enter health information; school officials often enter budget, food services, or transportation data from various places around the campus; and teachers and other staff members enter student enrollment information, attendance data, and test scores.

It is important for everyone in a school to understand that, in all cases, data are entered into a computer so that information can be developed and used. One of the tasks of school administrators is to work with staff so that they can see the relationship of the information to the data entered into a computer and understand how that information supports the school's instructional program and business operations.

The goal is to establish conditions that will instill confidence among the users of the data. People who rely on reports must be able to trust that information is accurate, that the confidentiality of student records and the integrity of the data are secure, and that they're getting the right information to answer their questions. In this document, the environment that makes this happen is called a "Culture of Quality Data." It all starts with the data entry process in a school. It exists where people believe that good information is important enough to warrant the resources needed to produce it.

> A Culture of Quality Data begins with the data entry process in a school.

Policies and Regulations

Schools are bound by district policies as well as by state and federal regulations that address what data must be reported and how these data must be reported. A common thread of these policies and regulations is the school's responsibility for the children it teaches and the resources it is given to do the job. Some of these policies and regulations exist to protect the expenditure of public funds. Others are in place to ensure that students receive services or to protect students' rights as citizens. Schools and districts are accountable for the financial support and services they receive as well as the children under their care.

When we say that schools are the entity responsible for upholding these regulations, we are really talking about the demands made on school principals. School principals are ultimately responsible for the information created from the data entered by staff, and they have an ethical responsibility to report data as accurately as possible. To that end, principals work with their staff to develop and distribute the onsite data quality policies needed to meet federal, state, and district data requirements.

In larger schools, the principal may be able to appoint a staff member to act as a data steward to manage the data and to work toward achieving a Culture of Quality Data. In other schools, the principal might be the only administrator on site and may have to depend on an overworked office secretary to enter much of the required data. In any case, the principal is responsible for ensuring compliance with policies and regulations and for making sure the data allow achievement to be measured accurately.

If you have a Culture of Quality Data in your school, it is easier to meet the policy and regulatory demands of the various agencies that require information. When you have confidence in the data provided, you are more likely to survive an audit, for example, because you will have

- clear standards and guidelines for data quality;
- school staff with the needed skills and information to enter data correctly;
- workable calendars and timelines to make sure the data are available when needed; and
- technology and technology support in place to support these efforts.

Standards and Guidelines

To build a Culture of Quality Data in a school, administrators and coordinators will want to establish standards and guidelines that encourage respect for accurate data. Standards are the values or principles followed as a school moves toward achieving a Culture of Quality Data. Some of the issues the standards might address include what is considered an acceptable error rate, what turnaround time is acceptable for information requests, and what security measures must be in place.

Sample Question: Is it acceptable to use parents/aides to enter student data?

Sample Guideline: Confirm that such individuals are considered "school officials with a legitimate educational interest."[1]

Sample Volunteer Code of Confidentiality: See the sample volunteer code on p. 36.

Guidelines describe procedures for meeting the standards. For example, a standard might require that 100 percent of the items on an enrollment form be completed, while a guideline might describe the process followed when data are found to be missing. While policies and procedures usually originate outside the school, school personnel can also be involved in their development.

People who have done data entry work are able to give appropriate and important feedback about the work that they do. Data clerks are probably the best people to judge if a data entry screen is set up efficiently, to assist programming staff in determining the placement of an item on a screen, or to help the technical support personnel provide appropriate assistance.

Data entry personnel can also be involved in establishing the guidelines for addressing issues. For example, what happens if the ethnicity field is left blank on the enrollment form? Does the data entry clerk guess based on the student's last name, or is the parent called? If the parent is called, who in the office makes that call? What happens if the parent objects? The fact that the ethnicity field might have to be completed may or may not be a policy issue. Guidelines will assist your staff in addressing the problem.

When we talk about building a Culture of Quality Data, we believe that all staff need to know

- what data are entered at the school;
- who enters the data; and
- the purpose of the data.

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[1] The task force responsible for this document questioned the legality of having someone not directly employed by a school or district entering student data. The federal office responsible for the Family Educational Rights and Privacy Act responded that this is acceptable if the school has defined and published its criteria of "school officials with a legitimate educational interest" broadly enough to cover such nonemployees. The U.S. Department of Education's Family Policy Compliance Office has published suggested language that can be found on the Internet at http://www.ed.gov/policy/gen/guid/fpco/doc/ferparights.doc.

It may seem that involving teachers in developing standards and guidelines for data entry is not a good use of their time. However, during the past few years, data-based decision-making has become a mantra for the education community, and teachers make the instructional decisions. It is not enough to show teachers reports with numbers representing student achievement. Teachers also need to know how the data get into the reports they review and, where possible, to ensure that the data are entered accurately.

> An effective data quality program involves all the staff. Everyone depends on the accuracy of the data.

Rarely is any database perfect, so how do you know that the data entered are correct? Even with adequate training, additional vigilance is necessary to monitor data entry. You might

- where possible, assign one person to act as your data steward;
- spot-check the data by hand, using the actual forms from which the data were entered;
- use returned mail to flag out-of-date addresses; and
- put your return address on all routine mailings so that, if an address is entered incorrectly, the envelope will be returned and the data corrected.

You will want to write the guidelines and standards your staff members have developed and post them where data entry takes place. Generally, guidelines will be followed much more reliably when the staff who are directly responsible for data entry are involved in creating the guidelines that apply to their work. And, when teachers and administrators understand the relationship between data entry and the reports they rely upon, a greater appreciation for the data entry staff will develop.

Training and Professional Development

Both training in specific skills and broader professional development are important in ensuring accurate, responsible data entry. In most cases, the district provides professional development programs. However, some training and professional development within a school will go a long way toward creating a Culture of Quality Data. It helps when school administrators

- encourage staff to attend professional development or training sessions;
- allow attendees to discuss findings and new directions at staff meetings or in written communications;
- hold discussions that include all staff members so that everyone understands the importance of data in the school; and
- involve those responsible for data entry and security within the school in discussions about what changes in procedures may be needed.

Professional development programs need to be more than a demonstration of new software to clerks and other staff responsible for entering data. A Culture of Quality Data is inclusive. Data clerks, teachers, and administrators need to know the impact of the data, that is, how the data will be used.

An effective professional development program can link the entry of data to reports created and to the instructional program. For example, teachers, administrators, and other staff need to know the relationship of

- enrollment data to appropriate placement in classes;
- timely reporting of student attendance to the ability of the school to notify parents of absentees;
- accurate and timely entry of grades to the ability of the school to generate reports to parents; and
- free and reduced-price lunch data to schools' eligibility or funding for student nutrition programs, Title I services, and the E-Rate telecommunications program.

Timelines and Calendars

People who work at schools have to meet multiple deadlines during the year, and these deadlines often fall on the same date. Therefore, it is important to control the workflow and to make sure that the entire staff knows what is expected during the school year. You can work with staff to develop a specific data entry plan for those times of the year when an "enrollment crush" will take place or when student grades must be entered.

The principal, or an appointed data steward, can develop a calendar of due dates and timelines that will provide the necessary information. You can develop this calendar by using any number of simple software programs. You want to pick one that can

- set up monthly templates;
- indicate due dates for reports;
- indicate due dates for data entry;
- designate holidays;
- designate days or weeks set aside for testing; and
- identify the staff person responsible for implementation.

The data entry and reporting calendar will be helpful to the school's technology staff. The calendar will let staff know when to expect a greater use of the computer systems for data entry. This alerts them to schedule server maintenance before or after times of peak activity and to augment help desk personnel to meet increased needs.

Every school has to contend with those times of the year when there is a spike in the data requirements. It is important for everyone who works with the data to participate in determining the calendar. This includes the technology department and the data clerks. Planning for the "crunch times" will make the entire data quality process go more smoothly.

Technology (Hardware + Software + Network)

Schools don't usually manage the hardware or software that supports data entry. However, as users of the technology, school personnel do have a role to play. Data quality depends on how user-friendly the systems are. When the data entry screens are confusing, there is a greater possibility of data entry errors.

When you think about data entry systems, realize that they do not need to be static. There is always room for improvement. When the people entering the data have recommendations for change, support those requests. It is often up to the administrator, or the data steward, to help the technology department understand the changes recommended by data entry staff. Data entry staff are able to give good advice, for example, when it comes to data entry screen design or software augmentation.

The use of passwords is important for securing the privacy and confidentiality of student and personnel information. Guidelines for the use of passwords might include the following:

- Make sure that your password consists of both alphabetic and numeric characters.
- Do not share or "loan" your password to another person.
- Change your password frequently.
- Memorize your password instead of writing it down.

Memorize your password.
Don't write it down.
Don't tape it to your monitor or
   keyboard.
Don't hide it under your desk.

Security has to be an overriding concern when personal data are considered. However, security systems don't have to be obstacles for the people who use them. One purpose of technology is to make it easier for people to do their work. Data entry needs drive the development of technology, not the other way around!

Data Entry Environment

A perfect data entry environment would consist of enough space to work comfortably, that is, enough space to enter data into a computer and display the documents that contain the information to be entered. The area would be quiet, so that the data entry clerk can concentrate. Data entry can also be made more efficient and accurate if the administrator

- sets aside a regular time of day for data entry work; and
- locates the data entry area away from traffic patterns.

However, we know that schools are very unlikely to have an ideal space for data entry. There is always something happening to distract attention from any one task. When is an office, workroom, or classroom free from interruption? The best that we can hope for is that staff will try to limit interruptions and that the school will provide an appropriate space for the person who is entering the data.

When we talk about creating an appropriate environment for data entry, we mean much more than the physical conditions for data entry. By examining the process of data entry in a school and looking at the roles of all the staff that are part of this process (see the tip sheets that follow in Part II), a school can create an environment that supports data entry and leads to quality data. When such a climate exists, and when data entry staff are given the support they need, data will be more accurate. Trusted, accurate information is likely to be used to make informed decisions about the instructional program. This is a Culture of Quality Data.

Helping a District
Achieve Quality Data

Districts play a key role in ensuring quality data. Districts respond to the policies and regulations set by state and federal programs as well as their own internal policies. District personnel are usually responsible for training data collectors and for ensuring that the data gathered are of high quality. Districts may also be responsible for dedicating resources to provide the best data collection environment possible for their schools.

Policies and Regulations

Districts are expected to comply with a wide array of policies and regulations set by federal programs, state legislatures, and state departments of education. It is easier to meet the policy and regulatory demands of the various agencies if you have confidence in the data you provide. And it is more likely that you will have confidence in the data if there is a Culture of Quality Data in your district.

Districts usually have policies or regulations of their own that require validation of data. We recommend that any process involving the transfer of data be developed collaboratively. In the development of the data transfer process, you will want to include

- staff responsible for developing the reports or information;
- representatives from the technology group;
- representatives from the schools involved; and
- staff who are responsible for data entry.

By including everyone affected by a data collection in the planning stage, the district data steward can create a collaborative environment that fosters a Culture of Quality Data. In this environment, the people responsible for all aspects of the reporting cycle will carry out their work with a full understanding of what is to be done, and why it is important. Including staff in planning the process that will be used to meet the reporting requirements makes it much more likely that the data will be complete and accurate.

Standards and Guidelines

Standards and guidelines tell us how to implement policies and regulations. They can also point the way toward more effective data practices within the district and schools. Guidelines for reporting and data entry will be most effective when they are developed with the active participation of those responsible for quality data, including data entry staff.

Many of the items that are important in building a Culture of Quality Data within a school are also important in building a Culture of Quality Data within a school district. For example, to build a Culture of Quality Data in a district, administrators and coordinators will want to establish requirements for timely, accurate data; develop standards and guidelines that encourage quality; and use the resulting information to make data-based decisions.

Just as the existence of a data steward at a school can bring a focus to data, the same is true at the district level. The district data steward can create an environment in which staff can develop workable guidelines for meeting the data standards. The data steward's role here is to encourage collaboration by involving representatives of data entry staff, technology staff, district research staff, and data users. Among the support that such a group could provide are guidelines that

- describe the process to follow when an error is discovered in a report;
- state who will be responsible for notifying the school if errors are discovered;
- determine who will follow up on the initial notice of a problem; and
- determine what reports or other assistance will be provided to schools as they try to correct errors.

> The data steward is key to the development of an atmosphere where quality data are valued.

The foundation for a Culture of Quality Data rests on the ability of staff to collaborate.
This is true within agencies and schools and across agencies. When guidelines are developed collaboratively, districts and schools can create real-world procedures that enhance the quality of information across the state as well as within the district. As an added benefit, state department of education staff will have a greater understanding of the needs of districts and schools when additional data collections are proposed.

Training and Professional Development

Training and professional development provide an important opportunity for a district to have an effect on data quality. A consistent, comprehensive professional development program, stressing the importance of the process to all staff, will go a long way toward developing a Culture of Quality Data. If professional development for staff responsible for data entry is to be effective, the training will consist of more than a recitation of the keystrokes needed to complete a rote task. Staff responsible for data entry, from the office clerk to the nurse to the teacher, will value the process leading to quality data when their role in the process is valued.

The superintendent and board of education can send a strong message about the importance of data quality and those who are responsible for it. You will want to instill a belief system that will enable those who enter data to understand why they are asked to do this seemingly rote task. Consider the impact of a training program that includes

- respect for the intelligence of the people responsible for data in the school;
- hands-on training to get staff used to using the data entry screens;
- handbooks or guidebooks that are inclusive, with copies of data entry screens, systematic instructions, and the rationale for entering the data;
- procedures for obtaining assistance (e.g., help desk phone number, website, online and/or e-mail query process);
- copies of the reports created from the data in the training handbook so that the people entering data will have a sense of how their work affects the operation of the school; and
- an opportunity for structured feedback about the training program and general data entry issues.

While providing training directly to personnel responsible for entering data is most effective, sometimes it is not possible. In larger districts, it may be necessary to train school administrators or data stewards, who will, in turn, be responsible for the hands-on training of their staff members. Under these circumstances, you may want to offer a presentation program on a CD-ROM or web-site. Reliable training materials will help to make sure that a consistent message is delivered. In addition, the tools can serve as a reference for the data entry staff. The presentation program has to be well designed in order to

- convey the value top leadership places on the skills/practices being taught;
- provide the opportunity for practice; and
- advise people how to get additional help.

Sharing copies of reports with the personnel responsible for data entry allows them to see the results of their work. You may want to schedule follow-up discussions after the completion of new or major data efforts to see what worked and what needs to be improved. If individuals in the district are aware of the importance of the collection of quality data, it is more likely that they will put out the effort to ensure that the data collected are of the highest quality possible.

When it is necessary to hire part-time staff, pay particular attention to the appropriate training necessary to achieve quality data. Investing resources in formal training pays benefits that justify the expense. It shows that the work is important and establishes con- sistency. The training doesn't have to be elaborate; in addition to a demonstration of the keystrokes necessary to enter the data, include an explanation of the importance of the work and a sample of the information that will result from the data entry.

> Sharing reports with the personnel who enter data allows them to see the results of their work.

Timelines and Calendars

Districts, like schools, are often at the mercy of deadlines that others have set. The district also has its own data needs and sched- ules. Therefore, it is critical to develop a district data calendar that will help track the times when reports are due and when schools must provide data to meet these deadlines. You will want to use the calendar to identify what data are required from schools and when the district, state, or federal programs need the information.

The district data steward can be responsible for maintaining this calendar. Involve the program offices, including the information technology staff, in planning the data calendar. Through this collaboration, you can avoid overlapping dates. Moreover, these meetings can evolve into discussions about reducing redundant data requests.

And, of course, it is very important to distribute the district data calendar, with timelines and deadlines, to all district staff. This will enable the school data steward to work with his or her staff to develop a calendar that will ensure data are entered in a timely manner at schools.

When asking for information from schools, explain the purpose of the information requested and link the request, wherever possible, to the instructional program. If the data request does not directly relate to the instructional program, but is needed to qualify for financial or other resources or to satisfy a federal regulation, it is more important for school personnel to understand the reason for the collection. When staff are informed, their understanding of the process will enable them to perform at a higher level of competency.

In a smaller school, it might not be possible for the principal to appoint a data steward or coordinator. In this case, it is necessary for the principal or someone else in the school to be responsible for tracking the due dates of various reports and working with staff to ensure that data are entered in time to meet deadlines. Additionally, the district data steward may want to assist the principal and work directly with school staff to develop appropriate data entry procedures.

Technology (Hardware + Software + Network)

A computer infrastructure exists to serve the needs of the people in the organization. This is true even though it may seem at times that the needs of the machines take priority over getting the work done. This situation can be avoided if you involve the information technology staff in the decisionmaking process about data collection and reporting.

We have discussed the importance of timelines and calendars. The participation of the information technology staff in the development of a data entry or data reporting calendar allows them to adjust schedules to meet the needs of the greater school community. Working with the district data steward and other members of the staff, the information technology coordinator or director can schedule extra support personnel, as needed, and can arrange for maintenance to be carried out at times of low system use.

An important role district personnel play is to ensure the accuracy of data received from schools. Technology can help here through the automation of quality control. Mistakes can be corrected before they are made when the computer system prevents entry of obviously incorrect data. This also frees teachers, nurses, food service personnel, and other data enterers from a lot of number checking. Data entry staff, administrators, and technology personnel can work together to produce and implement the specific "edit-checks" that serve the needs of your district. These edit-checks can correct errors before they occur.

It is a standard business practice to use passwords to secure the privacy and confidentiality of student and personnel information. You will want to write password security procedures and distribute them to all staff. In addition to the security guidelines for schools described above (see p. 10), the district might consider additional guidelines to ensure that

> **Sample edit-checks:**
> If 1=male and 2=female for a particular field, allow only a "1" or a "2" to be entered in that field.
>
> If a telephone number field requires an area code, do not allow a phone number with fewer than 10 numbers to be entered.

- passwords are of a sufficient length (e.g., a minimum of eight alphabetic and numeric characters); and
- procedures require passwords to be changed frequently (e.g., every 30 to 60 days).

When implementing security procedures, it is best to include a help desk or another process for staff to use if they forget their password. Password restoration procedures should include a method to verify the identity of the person calling the help desk. This might include asking for the staff member's social security number, mother's maiden name, or some other item.

Data Entry Environment

The importance of the physical area in which data entry takes place was discussed above (see p. 11). While building campuses with appropriate spaces for necessary activities is a long-range solution, there are more immediate steps the district can take to improve the data entry environment.

Every district has programs that compete for a limited amount of money. Program funding is tied to accountability measures that, in turn, are based on data collected by schools and districts. It is in the best interests of districts to provide the resources needed to produce quality, on-time data.

In some cases, overtime pay for office staff responsible for data entry may be an effective way to meet data entry deadlines. In other situations, you will want to measure the productivity of overworked staff against the difficulties of hiring more people to do the work. You may want to examine hiring part-time staff at those times when a great deal of data entry is expected — for example, at student enrollment time.

When enough staff members have the time to dedicate to data entry, in a place where interruptions are minimal, data quality will increase. Districts may not have the funds to provide the number of personnel or the physical conditions needed for optimal data entry. Nevertheless, working toward these goals even if they cannot be met in full, and recognizing the importance of data entry in the life of a district, will help to bring about a Culture of Quality Data.

Summary

Effective policies, guidelines, professional development, and efficient environments are all earmarks of a school or district that values data quality. It is understandable that these conditions will not develop overnight. Like the creation of any other successful program, the creation of a quality data system takes time and requires the development of a systematic process.

Throughout this guide, the emphasis has been on the contributions of those school staff members who enter data. Some members of the staff enter data as a primary responsibility. Others enter data only when there is an urgent need for the data. Still other members of the staff, such as teachers, administrators, or nurses, are required to enter data for part of a day or for a few days during the year. All of these staff members, and the data entry process, need to be treated with respect and understanding since they represent the foundation of quality data.

Some of the questions you might want to ask when you think about data quality include the following:

- Are data entry and collection valued tasks?
- Do staff understand why data are being collected?
- Do staff see the reports that are created from the data that are entered?
- Do the data entry staff understand how the teachers use the data to enhance the instructional program for individual students?
- Do staff know how much money is brought into individual schools and the district because of the data that are entered?

The Introduction in Part I of this guide noted that the components of a Culture of Quality Data include the need for data to be accurate, to be secure, and to serve a specific purpose. It is clear that "the quality of the data becomes increasingly important as decision makers at all levels inside and outside the organization begin to use data to inform decisions" (Consortium for School Networking 2003).

The authors recognize that quality data require an investment of time and money. The investment can create an environment where the data collected result in informed decisions, from the office of the superintendent to the classroom teacher.

When an effective data entry and collection environment exists, staff will spend less time and money correcting data errors and more time on other tasks, such as the instructional program. This can happen when all those involved in the collection and use of data are communicating, when all those involved respect the contributions of the staff who enter the data, and when all staff understand how the data are used. In fact, it depends upon building a Culture of Quality Data.

Part II

Tip Sheets on the
Roles of Key Players

Quality Data: The Role of the Principal

Responsibility

As the chief instructional leader, you are ultimately responsible for data collection and reporting in the school. You have the responsibility to report data as accurately as possible.

Things to Think About

- How do you and your staff use data to measure student achievement?
- When you place your signature on a report, how certain are you that the data are correct?
- What data are collected in your school?
- What can you and your staff do to produce quality data?

Things to Do

- Check reports for accuracy and reasonableness before "signing off" and sending to the district.
- With staff, periodically spot-check source documents against data entered to ensure that required data (e.g., medical information) are actually being entered.
- Ensure that your staff have access to appropriate technology tools.
- Stay current by attending meetings and training about data requirements.
- Provide district data personnel with recommendations for improvements in data collection procedures.
- Allow and encourage staff to attend training in their areas of expertise.
- Consider using a variety of training strategies, including the "train-the-trainer" model, where necessary.
- Work with your staff and the district to develop and use standard procedures for data entry and reporting.
- Provide trained staff to back up data entry personnel during peak periods (enrollment, scheduling, etc.).
- Understand and communicate laws and regulations that affect data at your school (e.g., the Family Educational Rights and Privacy Act of 1974 [FERPA] and the Health Insurance Portability and Accountability Act of 1996 [HIPAA]).
- Support and monitor district data security policies and procedures.
- Encourage the use of data to make daily instructional decisions.
- Provide an environment conducive to accurate data entry.
- Develop a calendar for data reporting deadlines.

Outcomes (What's in it for me?)

You have many diverse responsibilities within your school; among these is the responsibility to ensure that what is happening at your school is accurately reflected in the data. It will take time and effort to develop a Culture of Quality Data within your school. By helping staff to understand the importance of data entry and data collection, as described above, the quality of instructional and operational decisions will improve.

Quality Data: The Role of the Teacher*

Responsibility

You are responsible for entering timely and accurate data about your students, as required.

Things to Think About

- Who uses the data that you enter (e.g., parents, students, school board members, the principal, other teachers, payroll staff, the news media)?
- How do you use data to make important individual and group instructional decisions (e.g., progress toward content standards, need for remediation/intervention)?
- What is the effect of the data you enter on students' educational experiences?
- What is the impact of incomplete or inaccurate data?
- What can you do to increase the accuracy of data?
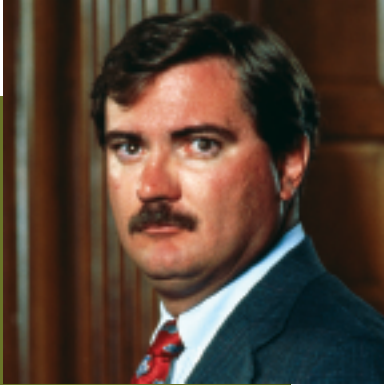
Things to Do

- Ask for and attend training on the use of data in the instructional program.
- Ask for appropriate instructions and documentation.
- Do not be afraid to ask questions about your data responsibilities.
- Identify barriers to effective data entry and communicate these to the principal or other appropriate personnel.
- Respect the privacy and confidentiality of student data by protecting data from students and unauthorized personnel.
- Follow your district data security policies and procedures (e.g., change passwords frequently, do not share passwords with colleagues or students, etc.).
- Enter data accurately and in a timely manner.
- Check your work for accuracy and completeness.
- Ask for help if you make an error.
- Share good ideas and best practices about data entry with your peers.
- Check your calendar for data reporting deadlines so that you can allocate time for data entry.

Outcomes (What's in it for me?)

Your ability to make sound educational decisions about your students will be improved because those decisions will be based on quality data. You will be able to improve students' educational experiences because the instructional program will be based on accurate data.

*The suggestions in this Tip Sheet may apply to others in the school, such as a counselor or nurse.

Quality Data: The Role of Office Staff

Responsibility

You are responsible for entering important data accurately and completely, maintaining data security, and understanding how the data will be used.

Things to Think About

- Who uses the data that you enter (e.g., school board members, the principal, parents, teachers, students, payroll staff, the news media)?
- How are data used to make important instructional decisions (e.g., student placement)?
- What is the effect of the data you enter on schools or programs?
- What can you do to ensure the accuracy of the data you enter?

Things to Do

- Enter data accurately and in a timely manner.
- Ask for and attend professional development programs.
- Ask for appropriate instructions and documentation.
- Do not be afraid to ask questions about your responsibilities.
- Identify barriers to effective data entry procedures and communicate these to the principal or other appropriate personnel.
- Implement the district data security policies and procedures (e.g., change passwords frequently, do not share passwords, treat data confidentially, etc.).
- Check your work and run appropriate edit reports.
- Ask for help when you make an error.
- Identify a peer who does work similar to yours so that you can share ideas and best practices.
- Check your calendar for data reporting deadlines so that you can set aside time for data entry.

Outcomes (What's in it for me?)

You are at the center of any effort to build a Culture of Quality Data in your school. You take pride in and ownership of your work. You understand the importance of the data you are working with and have taken steps to raise the level of data quality in your school. As a side benefit, working more efficiently means that your data entry tasks will be easier and less frustrating.

Quality Data: The Role of the School Board Member

Responsibility

As a school board member, you are responsible for setting policy.

Things to Think About

- What information do you need?
- How does your district use data to demonstrate achievement in educational programs?
- How do you know that the data are accurate?
- What do personnel in a school do to enter and gather data?
- What is a school required to do when you request nonmandated data?

Things to Do

- Understand the impact data has on funding programs.
- Allocate appropriate resources to enable schools to meet the ever-increasing need for data collection and data entry.
- Invest in computer hardware and software as a routine cost of doing business.

Outcomes (What's in it for me?)

Pressures on school board members are always increasing. By becoming knowledgeable about the data entry process and the district's procedures for ensuring data quality, you can rely on the information you use with more confidence.

Improving data quality is an investment. If the resources used to produce accurate, timely data result in information to justify programs or secure additional needed funds, it is money well spent.

Quality Data: The Role of the Superintendent

Responsibility

As a district superintendent, it is your responsibility to enhance the educational program of students, to improve student achievement, and to see that district policies are implemented.

Things to Think About

- How does your district use data to demonstrate achievement in educational programs?
- How do you know that the data you review are accurate?
- What data are schools responsible for entering into computer systems?
- Is there an inventory of data collected in your district?
- Do personnel in your district understand the use of data in the instructional program?
- Do personnel in your district understand the use of data in funding programs?
- How do you deal with redundant requests for data?
- Are personnel available to enter data into computer systems at schools?
- Are staff responsible for data entry receiving appropriate professional development?
- Is there a process in place to resolve discrepancies in information?

Things to Do

- Set education benchmarks that use data to measure student achievement.
- Support the development of a Culture of Quality Data in your district through an effective professional development program.
- Encourage principals to make data-driven, building-level decisions.
- Support your information technology director in the promotion of more efficient data collection procedures, the use of technology to decrease data entry errors, and the movement toward applications that are "interoperable" (i.e., that interact with each other using a minimum amount of programming resources).
- Support the allocation of funding to provide schools with the appropriate resources to enter data.
- Assign a member of your staff to be a data "steward" or coordinator.

Outcomes (What's in it for me?)

A Culture of Quality Data in the district will result in reliable data that are useful for evaluating the instructional program and student achievement and for pointing out areas of success and places where improvements are needed.

A Culture of Quality Data will enable you to have confidence in the information that you review and, most importantly, will allow you to make effective decisions.

Quality Data: The Role of the Data Steward or Coordinator

Responsibility

You serve your administrator by ensuring that the statistical information reviewed by senior staff represents data that have been entered accurately and collected systematically. Furthermore, you enhance the information reporting process through staff development and collaboration with the various offices and programs responsible for producing data and information.

Things to Think About

- Does the information reviewed by your superintendent and senior staff represent facts based on accurate data from programs and offices?
- Does everyone in your school district understand how data are used to benefit the instructional program and provide funds for services?
- Are data collected systematically in the school district?
- Are the staff responsible for entering data trained to do an effective job?
- Is there a process in place that allows "end-users" to request or modify reports?
- Are you and the information technology (IT) director operating collaboratively?

Things to Do

- Coordinate the data collection process.
- Provide professional development for staff members leading toward a Culture of Quality Data in the school.
  The sessions might include
  - demonstrations that incorporate hands-on training, enabling data entry personnel to become used to the actual data entry screens;
  - examples that actually reflect situations that will be encountered;
  - handbooks or guidebooks, with copies of data entry screens, systematic instructions, and the rationale for entering the data;
  - descriptions of the procedures for obtaining assistance (e.g., help desk phone number, online and/or e-mail query process); and
  - copies of the reports created from the data, enabling trainees who enter information to have a sense of how their work affects the operation of the school.
- Resolve discrepancies in information before reports are forwarded to senior staff.
- Develop a process that allows staff to request new reports or modifications of existing reports.
- Collaborate with the district technology director or coordinator to enhance the ability of computer programs to determine effective editing procedures for reports and other information.

Outcomes (What's in it for me?)

By helping staff members to understand the importance of data entry and data collection, and to see the process that leads to data-driven decisions, you are directly involved in courses of action that lead toward improved student achievement and increased services provided to the district and schools.

Quality Data: The Role of Technology Support Personnel*

Responsibility

You maintain and secure the hardware, software, and network that allow staff to enter, store, secure, and transfer data.

Things to Think About

- Are the data and the hardware secure?
- Do you have the appropriate hardware and software to allow efficient data entry and storage?
- Are standard data definitions used in the software?
- Are the computer applications "interoperable" (i.e., able to interact with each other using a minimum amount of programming resources)?
- Are you and the data coordinator operating collaboratively?
- Do you have an effective help desk process in place?

Things to Do

- Ensure that effective security measures, including password protection, are in place. (See *Weaving a Secure Web Around Education: A Guide to Technology Standards and Security* [National Forum on Education Statistics 2003], which deals with system security in detail.)
- Work with the data coordinator and other staff involved with data entry to develop efficient editing and data verification procedures.
- Work with the data coordinator to provide technical assistance with professional development and dissemination programs. The assistance could take the form of a
  - CD-ROM with training information that can be duplicated;
  - website address, with frequently asked questions (FAQs) that can be distributed to trainees; and/or
  - a PowerPoint™ presentation.
- Provide a help desk and/or an online help area for data entry staff.
- When selecting computer applications, you might want to ask the following questions:
  - Does this application comply with our district data standards?
  - Can the application "talk" to other computer applications (i.e., interoperability) in the district?
  - Does the application use the same keystrokes to move around screens as our existing applications? Alternatively, can the new system be modified so that the same data entry keystrokes are used in both new and legacy systems?
- Develop an electronic audit trail so that people are able to determine potential flaws at each of the various stages of data collection.

Outcomes (What's in it for me?)

Your involvement in data entry and data collection, including training and professional development, does pay dividends in both the instructional program and the services you are able to provide to the district and schools. Through your involvement in these areas, staff will be more responsive when you request funding to improve the technology infrastructure.

*The suggestions in this Tip Sheet may apply to the information technology director, coordinator, technician, etc.

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Further Information

ESP Solutions Group (www.evalsoft.com) has a great deal of information on data quality and provides detailed processes for examining data flow within an education organization.

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Sample Volunteer Code of Confidentiality

North Clackamas School District is committed to maintaining the security and confidentiality of all student records and information. Selected volunteers with access to student records or information must adhere to the Volunteer Code of Confidentiality as outlined in the guidelines below. Violations of these guidelines may result in a reassignment and/or restriction of the volunteer's responsibilities by the administrator or designee.

All student records should be considered confidential.

Directory information, including student's name, address, telephone number, date and place of birth, student's photograph, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received and previous educational agencies or institutions attended, can only be shared with administrative approval.

Records should not be left in a place where they can be viewed by others.

Copies of records can only be shared with administrative approval.

Volunteers should not discuss or repeat information overheard while in the staff lounge, classrooms, offices, school grounds, hallways, school or extra curricular activities.

Volunteers should not discuss information obtained while in a classroom, such as a student's grade or behavior, with anyone other than the student's teacher.

Concerns or questions regarding student records or issues of confidentiality should be brought to the attention of the staff member that supervises the volunteer, and/or school administrator.

Any knowledge of a violation of this Code of Confidentiality should be immediately reported to the staff member that supervises the volunteer, and/or school administrator.

By signing, I acknowledge that I have read, understand, and will comply with the Volunteer Code of Confidentiality.

_____   _____

Volunteer Signature   Date

_____   _____

Administrator Signature   Date

(Prepared by the North Clackamas, Oregon, School District and used when volunteers work in their district schools)