

# *WHO MAKES UP THE CBEDS?*

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## **CBEDS BACKGROUND**

The California State Department of Education is developing a multipurpose data system on California education that contains basic information on staff, enrollment, finance, facilities, curriculum, and community demography related to public elementary and secondary schools. The California Basic Educational Data System (CBEDS), part of the larger multipurpose data system, collects information on staff members and students at the county, school district, and classroom levels. These data are collected once a year in October on "Information Day" then converted to file form. Subsequently, the data are used by the California State Education Department both for compilation of federal and state reports required by law and for response to state legislative requests for information, planning, and management. Certain CBEDS data are also made available to other state agencies, educators, and educational administrators for research and planning; to authorized professional organizations; and to universities and research organizations (CBEDS Data User's Guide, 1982: 1).

Available data are released in aggregate or partial form only to authorized agencies or persons demonstrating a bona fide need for the information. Further, the California Information Practices Act of 1977 restricts disclosure of certain CBEDS data. The Act prohibits disclosure of personal information except for clearly defined official uses or for research when the individual to which it pertains is not identified.

## **LEGAL AUTHORITY**

The Education Code of California, beginning with Section 10600, provides for establishment of a basic education data system and requires

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schools, school districts, and offices of county superintendents of schools to cooperate with the education department in establishing and operating the system. Information collection through the CBEDS is mandatory, with the exception of the request for an individual's name and Social Security number on the Professional Assignment Information Form. Failure to submit information requested through the CBEDS results in using incomplete data for federal and state reports (CBEDS Data User's Guide, 1982: 1).

### HOW CBEDS WORKS

As with all management information systems (MIS), CBEDS has inherent problems. The problem of error control is the most pervasive. In a successful MIS, error is controlled by recognizing the interests of stakeholders, those involved with the MIS who have a stake in an efficient process and a use for a reliable product.

Can CBEDS stakeholders and users control CBEDS error? First, are classroom teachers stakeholders in CBEDS? To be a stakeholder, one must have some positive interest in the system no matter how indirect or remote. In a typical MIS, the software sales man, the computer programmer, the CRT display clerk, the Chief Executive Officer, the data encoder, the stockholders in the company, all with varying degrees of direct contact with the MIS, have an interest in the successful operation of the MIS. They care what happens.

In contrast, classroom teachers are the "pieces" of data that other agents use. Ideally, these "pieces" should be dispassionate and simply comply with the data requests. However, perhaps tacit recognition by the legislature that classroom teachers are not neutral bits of data, and may be actively negative, prompted the required compliance described in the CBEDS Background section.

Second, are classroom teachers even users of CBEDS? The CBEDS 1981 Administrative Manual makes this statement:

Features of CBEDS are:

The collection of basic information on only three source documents. The County/District Information Form, School Information Form, and Professional Assignment Form collect basic information which was

formerly collected on over 40 different reports [Administrative Manual for CBEDS Coordinators and School Principals, 1981: 2].

For the classroom teacher who previously never filled out any of the 40 eliminated forms, CBEDS *adds* to the paperwork. As described in the CBEDS Background comments taken from the 1982 *CBEDS Data User's Guide*, CBEDS is designed to serve a user far removed from the classroom. In the Sacramento office for CBEDS collections, even an enthusiastic supporter of CBEDS such as Vincent Madden, Manager of Data Acquisition and Forms Control, can find users only as close to the classroom as the district level, where, for example, CBEDS has successfully relieved the central office of reporting federally required ethnic counts. However, note that this relief, in addition to being outside the classroom teacher's concern, serves a part of the school system that is generally regarded by classroom teachers as the "other," the administration.

Vincent Madden suggests additional uses for CBEDS, such as providing data for union/district negotiations. Apart from the comments by district interviewees that local salary data were more accurate, this suggestion further illustrates the CBEDS designers' concept of who the potential users might be. No one sees the classroom teacher as a CBEDS user.

The solution to the California Basic Educational Data System problems will not be found with the stakeholders or users, because classroom teachers are neither. They are, however, the agents that provide CBEDS data. In their self-reporting, they are the discrete pieces aggregated to form the CBEDS, but these pieces of individual data are not uniformly reliable. At the initial point of collection, error, here defined as incorrect data, enters the system for whatever reasons, rational-irrational, intentional-unintentional, that move human beings to do what they do.

### **SOURCES OF ERROR**

Error occurs even in the responses of those classroom teachers positively oriented to data collection and willing to comply with CBEDS. This class of error is illustrated by the classroom teachers who,

misreading instructions, make mistakes in “bubbling in” requested information on the electronically scanned response sheets. These are the teachers, for example, who honestly regard some of their activities as administrative and code themselves as part-time administrators.

Other errors also occur by mistake. For example, although the cover form for the school site asks for quantitative data (e.g., *numbers* of students per grade) the secretary makes one *check* per grade. Also, respondents, entering explanations of their anomalous assignments instead of bubbling in the appropriate code, make “stray” pencil marks that confuse the optical scanner. In other cases, through inattention, the total number of students in the elementary school is entered in the column of total graduated from high school.

Errors from faulty training are endemic. Following the hierarchical organization of the State Department of Education, CBEDS instruction flows down to counties that offer optional training to the district coordinator, who may or may not be the person actually coordinating data collection at the district level. From the county training session, the district coordinator arranges instruction for site principals in CBEDS terminology, interpretation, and changes from previous years. In this way, site principals become the first point of error control. The Administrative Manual outlines these responsibilities:

The principal should check each completed Professional Assignment Form for completeness, accuracy, stray marks, and foreign objects [Administrative Manual for CBEDS Coordinators and Principals, 1983: 8].

If only the principal would do this carefully, collection error would be eliminated from the CBEDS system.

The principal is indeed a pivotal agent; unfortunately, *all* educational agencies claim the principal as a pivotal agent. The principal is therefore often overloaded and responds to requests for accurate CBEDS correction by employing unsatisfactory coping mechanisms. Because the most functional response, hiring more help, is usually denied them, principals may choose dysfunctional responses. Principals may (1) *filter*, by giving attention to the most demanding aspect of the collection, which may be to turn the forms in on time without close correction; (2) *queue*, by placing CBEDS in a waiting line where corrections may not be first in priority; (3) *omit*, by reducing effort on CBEDS; (4) *approximate*,

by giving the CBEDS a gross rather than fine examination; or (5) *trade errors*, by accepting a higher error rate in exchange for a rapid CBEDS return [Perrow, 1981].

So far, the discussion has addressed unintentional error by the initial respondent, but intentional error, mentioned frankly in the interviews, raises the question: Why would classroom teachers refuse to cooperate in a data collection that, as described in the manual, seems benign? Writers in the field of implementation stress involvement of all actors in the process, reinventing the wheel if necessary, to build commitment to the program. However, CBEDS implementation is top-down with consequent lack of understanding or commitment to CBEDS by classroom teachers, the initial data providers. During the first year of CBEDS collection, charges of "Big Brother," suspicions of the use of the data, and a general resistance to "more paperwork," were expressed by deliberate falsification of names and reporting salaries as either absurdly high or low.

To ease teachers' concerns over privacy issues raised by the unions, name and Social Security number are not now required, only the general descriptive information. By 1982, CBEDS was accepted by most teachers as just one more of the many required forms. However, indifference is not commitment, and interest in correct data collection is missing on the part of the classroom teacher. The form is considered too complicated. Teachers still will not bother to determine the correct code that describes their teaching assignment, which is a continuing source of CBEDS error.

Active opposition continues to be expressed by teachers who refuse to fill in names or Social Security numbers, erase names and numbers from their preprinted forms, and neglect to return their CBEDS forms at school sites where principals do not require CBEDS collection. In removing the need for personal identification by name or Social Security number, incorrect responses cannot be traced to the respondent. Alienated teachers can make a decision to comply or not. They can exert disruptive power in their work life with little risk to themselves.

The several rationales offered here for the noncompliance action of teachers are descriptive of the real-life situations in which principals, as line supervisors, find themselves. Unable to reward or punish except in petty ways, subject to charges of harrassment and grievance by the union, unable to coerce, only request, the principals often believe themselves helpless as the classroom teachers have their way with CBEDS. Principals call district coordinators, "What should I do?" The

CBEDS coordinators, believing themselves equally impotent, reply, "Nothing."

### **ERROR CONTROL**

Relationships between classroom teachers, principals, district coordinators, and county offices, with the Data Acquisition and Forms Control (DAFC) office, are more clearly understood if an observer regards these agents as part of the collection process and NOT as users. Only one of the interviewed school districts used CBEDS information for local purposes, and that was in a trivial public relations demonstration of how the California teachers are aging as a cohort.

The CBEDS users, as described in the CBEDS Background section, include large professional groups, the university system, and the legislature. However, the user of first importance is the Department of Education, itself, with the legislature as a close second. The challenge for DAFC is to provide timely, relevant, and accurate information to these two users. Whereas the quality of timely or relevant data is a function of the state processing agencies, accuracy of the CBEDS is a function of the collection process.

Discussions in the previous sections indicate that CBEDS is not accurately collected. Because of the now possible anonymity, no direct feedback to the individual is possible. Further, whereas compliance with CBEDS is mandatory, the "penalty" might even reinforce those respondents, concerned over "Big Brother," who might want to sabotage the system:

Failure to submit the information requested through the CBEDS will result in the use of incomplete data in federal and state reports [CBEDS Data User's Guide, 1982].

The DAFC does try to improve CBEDS collection accuracy by writing careless districts with exhortations to do better in the future, but the plea to correct the salary reporting errors of 1981 had no punch. As the DAFC has no control of CBEDS accuracy at the collection point with the individual respondent, control is established at the aggregate point in the system through predetermined knowledge of how the collected data should appear. Elaborate controls at the DAFC reduce

error to an acceptable level. "Acceptable" seems to be defined as error that, in practice, can be confined within logical parameters. For example, the computer error control program "flags" salary amounts outside the state minimum/maximum. Clerks then assess the flagged notions. Salaries marked as

(2) (0) ( ) ( ) ( )

with the three bubbles, are assumed to be

(2) (0) (0) (0) (0);

the clerk, filling in the bubbles, corrects a careless error. A salary reported as

(0) (0) (0) (0) (0)

is assumed to be an intentional error and is not included in salary averaging. Other flagged logical errors include free lunch counts greater than the total school enrollment, no graduating seniors in high schools with undergraduate classes in previous years, graduating seniors in elementary only school districts. Clerks call the school districts to clear ambiguous flagged responses. However, if the outputs are not flagged, error is undetected.

The Data Acquisition and Forms Control office is aware that as data become softer reliability weakens. The review board has rejected some requests for data collection as being impossible to determine by the classroom teacher, for example, do boys or girls drink more of their lunch milk? Some items have been discontinued because they were too ill defined, for example, do you have in-service at your school site? By concentrating on the logical limits of CBEDS data error correction, and by not pressing for the impossible goal of, for example, totally accurate salary data, DAFC has chosen to accept a goal they *can* reach and a printout they can deliver to their users.

The DAFC has chosen the cybernetic model of system control, the management by exception model. With this model, unanticipated consequences may develop. Suppliers of CBEDS data had an unpleasant surprise in March 1982, for example, when half of the California school districts received letters from the Local Assistance Bureau, which is responsible for monitoring legislated teacher-administrator ratios.

These letters warned the school districts that their ratios were out of compliance and that the districts were subject to fine. Previously, this ratio report had been prepared by the local school district for the state to review. Since 1982, figures for this ratio computation have been taken from general CBEDS data sent the state by each school district. For the first time, mistaken coding of assignment by teachers, careless transmission of data by principals, lax supervision by district coordinators, and general tolerance for high error rate were revealed in the system.

### CBEDS COLLECTION COMPARED

Accurate CBEDS data *can* be collected at the local level, then forwarded to the Data Acquisition and Forms Control office, but the key persons among the actors are the district superintendents. These superintendents focus the interest of their staffs on accurate data collection. A comparison of two large California school districts illustrates the effect of superintendent commitment.

Increasing credibility with the state legislature and the Department of Education through accurate reporting is the goal of the superintendent of the Los Angeles Unified School District. This emphasis is reflected by assigning a full-time staff member to ensure accurate CBEDS collection. In a system unique to the Los Angeles Unified School District, CBEDS is not collected separately for the state report, but is incorporated into the district data collection process in the fall. The district form gathers data of general CBEDS interest as well as data of specific interest to LAUSD such as more detailed ethnic breakdowns or curriculum offerings.

Because LAUSD has a sophisticated personnel information management system containing hard data such as the several job codes, salaries, ages, and years in the district, these data are easily pulled out for the CBEDS report and are accurate. CBEDS data, gathered from the LAUSD Information Form, are combined with the personnel data, then sent on tape to the Data Acquisition and Forms Control Office.

Los Angeles Unified School District site personnel are committed to data collection because the process is not seen as just another paper request from Sacramento but as the LAUSD information request clearly supported by the superintendent. Further, the collection feedback loop circles to someone who can make a difference at the initial point of error control, the site principal.



The first year the district information day was tried, errors were apparent. The central office held a "Correction Day" for principals with the forms from their sites. The LAUSD principals themselves, reviewing each form, made the corrections with wailing, gnashing of teeth, and much distress. However, since that first "Correction Day," the information forms have come from the sites filled in accurately, completely, without foreign objects or stray marks, and with 100% return.

In contrast, School District B assigned an early retiree as coordinator of the 1983 CBEDS collection. This coordinator had not been responsible for CBEDS before, did not have administrative clout, could not compel either 100% return or principal accuracy checks, and did not have either enough time himself or enough staff to check the forms even for completeness.

In an attempt to increase CBEDS accuracy and avoid the threat of fines from the Local Assistance Bureau (LAB) for another incorrect teacher-administrator ratio, District B did not use the preprinted forms from the state. Instead, respondents filled in all blanks anew. In addition, job codes were simplified. These attempts at an effective remedy failed—School District B received the LAB warning letter again in spring 1984.

The LAB warning letter indicated illegal ratios, but these ratios were not a true reflection of the School District B teacher-administrator ratios, which, in fact, were in compliance. The ratios, now computed from CBEDS data, have become an indicator of general careless CBEDS data collection. Teachers who mistakenly code themselves as administrators, teachers who feel they perform as administrators and therefore code themselves as administrators, and teachers who fail to return their CBEDS form, falsely weigh the ratios on the administrator side.

Because the district was liable for a fine, the ratios were corrected in spring 1984 by the personnel officer who had the job of correcting the CBEDS based ratios each previous year. This task was not eased by the School District B personnel management information system, which lacks the flexibility to serve other than district basic needs. For example, in the computer only one prime job number can be listed for an employee although the employee might be working in two different jobs.

But most important for School District B, the feedback loop to correct error does not return to the key collection agent at the first point of error control, the site principal. In contrast to Los Angeles Unified School District, where "Correction Day" made the principals sharply aware of error consequences, site principals in School District B never

received feedback of any kind, good or bad. Seeing no reason to change their response, they did not.

### **RECOMMENDATIONS FOR AN ACCURATE CBEDS COLLECTION**

- (1) CBEDS data gathering must be actively supported by the district superintendents who, in addition to their personal sponsorship, assign line administrators to coordinate the project. Because the site principals are not automatically either CBEDS users or stakeholders, the sponsorship of the district superintendent is necessary to increase the site principal's commitment to CBEDS and cause them to function in the role of collection point error control agents.
- (2) Modify personnel management information systems so that accurate data already available to the district can be easily gathered for the CBEDS report. CBEDS data collection will be eased by coordinating state and district requests for data, which will in turn encourage participant commitment by rendering CBEDS data locally useful.
- (3) Redesign the error feedback loop coupling so that those responsible for the careless transmission of error become those responsible for the error correction.

### **REFERENCES**

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