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ABSTRACT

A model for a comprehensive, multi-purpose, multi-user evaluation system is presented to facilitate educational decision making and to support school improvement and renewal. The model is school district-based but oriented to meet state-, school-, and classroom-level needs as well. The model emphasizes the usefulness of common or compatible information bases to accomplish both the policy and accountability goals of district- and state-level decision makers and the planning needs of local educators. The comprehensive information system encompassed by the model includes information on student background, program participation, school context and processes, instructional processes, student test scores, student attitudes, and other outcomes. Products of the system include evaluation/participation reports to federal and state government agencies and to school boards; exploratory studies; special reports; and reports geared toward the level of the school, class, and individual students. The system model also includes an outline of system capabilities and analysis and reporting requirements. Discussion protocols for articulating the information needs of model users are appended. (TJH)

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Center for Student Testing, Evaluation and Standards

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PROJECT: MULTI-LEVEL EVALUATION SYSTEMS

# Evaluation for School Improvement: A Multi-level, Multi-purpose Model

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CENTER FOR THE STUDY OF EVALUATION

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EVALUATION FOR SCHOOL IMPROVEMENT:

A MULTI-LEVEL, MULTI-PURPOSE MODEL

This paper outlines a model for a comprehensive, multi-purpose, multi-user evaluation system designed to facilitate educational decisionmaking and to support school improvement and renewal. The model represents a unique "top-dowr bottom-up" approach which is school district-based but oriented to meet school building and classroom needs on the one hand and ultimately to serve state level needs on the other. In contrast to current evaluation practices which often feature overlapping and redundant evaluation requirements, the proposed model emphasizes the utility of common or compatible information bases to accomplish both the policy and accountability goals of district and state level decisionmakers and the planning needs of local educators, enabling them to address their unique problems and priorities.

The conceptualization of the model draws on accumulated knowledge about what makes schools effective, about what makes evaluative information useful to teachers and administrators; about what makes information systems useful in organizations; and on the power of currently available, low cost microcomputer technology.

Background

The model starts with the assumption that evaluation information should be collected, analyzed, distributed and acted upon in order to improve educational quality. It assumes that such information can help upgrade educational quality by

facilitating better educational decisionmaking, improved instructional planning and more effective school management at all levels of the educational hierarchy. District administrators or school principals, for example, could use valid information about student achievement, among other indicators, to make judgments about their schools' performance, to evaluate the effectiveness of particular programs, to establish grade, school, or district wide priorities, to allocate resources wisely, and to spot curricular or other problems needing correction. Using information about student test performance, attitudes, preferences, etc. in combination with their own perceptions, teachers might more easily and effectively accomplish such tasks as assigning students to groups, diagnosing individual learning problems, monitoring student progress, assessing subject matter mastery, and identifying students who need remediation or enrichment activities. A principal and teachers working together could use information about school context, instructional processes and outcomes to analyze local problems and improve the effectiveness their school programs. School board members and district leaders could likewise use such information to get a comprehensive and accurate picture of the quality of their schools and to target their improvement efforts accordingly.

But while evaluation information has this potential, its power has yet to be realized. Why? The reasons are many and varied. Chief among these has been the source and nature of formal evaluation practice over the last two decades. Much of this practice has led to the proliferation of tests devoted to supplying the needs of legislators and administrators at the

federal, state and later local levels who wished to know how mandated programs were working and how schools were achieving. These individuals with the power to distribute funds, to make laws, and to devise regulations were thought to be in the key influential positions to improve education and they have been quite influential in installing an overlapping, and to some extent redundant, set of evaluation requirements, e.g., national assessments, special program assessments, state assessments, local district assessments. The people at the bottom -- teachers and local administrators -- were seen as data providers rather than data users. They were seen as implementers of reform efforts rather than initiators of such efforts. Consequently, most of the attention in the evaluation community was directed towards providing information to assist "top-down" decisionmaking, accomplishing at best only modest effects (Alkin et al, 1979; Cohen and Garet, 1975; Patton, 1986).

Teachers and local school administrators meanwhile questioned the validity of such evaluation efforts, saying that required tests did not reflect what they were teaching, that some were inappropriate for particular groups of students, and in any case, the results were often returned too late to be of any assistance. (Herman and Dorr-Bremme, 1983). They claimed further that the paperwork and bureaucratic burdens associated with mandated evaluation requirements intruded into, rather than supported, their own planning and improvement efforts. They argued also that improvement of educational quality must must be directed at local school sites where teachers and administrators directly interact

with children. "Bottom-up" needs, in short, were not and are not being well served by mandated evaluation and testing programs. Instead, teachers and principals developed their own sources of information, causing significant duplication of effort.

Complementing these concerns were criticisms by some in the research community who questioned the value of these standardized test-dependent data bases for sound educational decisionmaking (Baker, 1983; Eisner, 1985; Sirotnik and Burstein, 1984). Criticized as providing a very limited view of educational quality, these tests, for the most part, examined student performance on only a narrow slice of the curriculum, emphasizing basic skills and giving little attention to learning in the content areas, higher-order reasoning skills, and the multiplicity of other academic, social, and vocational goals which schools are supposed to address.

Not only did the test scores give an incomplete picture of the outputs of schooling, but they did so in a form that sometimes distorted their essential meaning. While the "How well are we doing" question provided impetus for much evaluation activity, answers framed solely in terms of test scores masked as much as they clarified. You simply couldn't backward chain from a simple test score to inferences about the overall quality of education in a state or district or at a particular school. The quality of school programs was (is) only one of many factors which contribute to student test scores. Cultural, social, economic, demographic and motivation factors are clearly influential, but often ignored in giving districts or schools report cards. Inequities and invalidities result, crediting

schools which serve advantaged populations and disadvantaging schools serving minority and poor students.

But even if credible testing instruments were available, more broadly-based tests were administered, and the results were to be integrated within a social/economic/community context, there would remain a further, serious deficiency in many previous evaluation conceptualizations. Evaluation in support of school improvement at the local level should not be limited to the type of data typically collected: outcome data. Left undocumented by evaluations focussing only on outcomes are the processes and contexts which create or contribute to those outcomes. Understanding these is critical to directing an effective agenda for school improvement. Eisner speaks to this point,

> "If we want to understand why we get what we get from our schools we need to pay attention not simply to the scores, but to the ways in which the game is played." (1985, p.6)

Concern with describing the educational process and its context, e.g., teaching practices, teacher morale, class climate, parent support, has been expressed by many in the profession (Goodlad, 1965, 1975a, 1975b; Sarason, 1982 on the culture of the school; Doyle, 1981 on classroom context; conceptualizations offered by Dreeban, 1967; Brofenbrenner, 1976; Tihunoff, 1979; McKenna, 1981; Sirotnik & al, 1983). But description and measurement of these elements often is ignored in routine evaluation practice.

School context has been neglected not only as an source of explanatory hypotheses about why outcomes are as they are but also as an important intervening factor which influences how

evaluation data themselves are interpreted and how they are used for school improvement and change (Sirotnik et al, 1985; Dorr-Bremme, 1984). Having technically sound, comprehensive data available does not assure that anyone will look at them, analyze them, discuss them, or take action stimulated by them. A growing literature on factors which influence evaluation utilization (Alkin et al, 1979, 1985; Bank and Williams, 1985), on factors which contribute to change and innovation in schools (Berman & McLaughlin, 1977; Sarason, 1982; Heckman et al, 1983) and on factors that affect the implementation of evaluation and information systems in fields outside of education provides clues on some of the socio-organizational-political issues involved in knowledge utilization -- factors such as leadership support, ownership, perceived relevance, fit with routine practice, incentives, etc. which can be expected to influence whether evaluation information is acted upon and used to alter existing practices.

The above analysis suggests some of the reasons why evaluation has had only peripheral influence on teachers, principals or district personnel in their efforts to improve educational quality. To summarize: evaluation has been primarily linked with "top-down," highly centralized improvement approaches which were not necessarily sensitive to "bottom-up" needs; evaluation data was derived primarily from tests of student achievement which examined only a narrow range of outcomes; evaluations ignored critical variables in the context and process of schooling; evaluations did not sufficiently consider the factors which would ensure attention to findings and

transformation of findings into an action agenda.

But there are possibilities for rethinking evaluation systems so that they serve multiple users and their diverse information needs. Many districts are currently moving in this direction (Williams and Bank, 1984; Williams and Bank, 1985; Idstein, 1985; Dussault, 1985). Radical changes in evaluation thinking are emerging which reflect both the reality of our decentralized or "loosely coupled" educational system and the awewome power of computers. Futurists such as Alvin Toffler predict an emergent "third wave" which will revolutionize the way our society and our educational institutions approach problems.

> Some problems cannot be solved on the local level. Others cannot be solved on the national level. Some require action at many levels simultaneously. Moreover, the appropriate place to solve a problem doesn't stay put. It changes over time.
>
> To cure today's decision logjam.... we need to divide up the decisions and reallocate them -- sharing them more widely and switching the site of decisionmaking as the problems themselves require. (1980, p. 431)

Education comes down to what happens to students in classrooms and in schools. American schools and classrooms encompass tremendous diversity in student population, in teacher skills, in curricular goals, in teaching strategies. Because of this diversity as well as because the actual control over instruction is in the school building, rather than in more remote and larger administrative units, the appropriate unit for solving many educational problems is the school (Goodlad, 1983; Baker, 1983). Consequently, school personnel are among the appropriate beneficiaries of improvement-oriented evaluation systems. But individual schools may not have sufficient resources, expertise,

control, etc. to solve all their educational problems by themselves. The solution of many educational problems, as the Toffler (1980) quote implies, requires initiative, direction, resources and/or actions at higher administrative levels, levels which have legal responsibilities for governance, personnel resource allocation, and policy formation, among other things. These realities suggest the desirability of a distributed system of evaluation which would provide local shcools with a rich, locally sensitive information base for their problem-solving but which would also provide appropriate aggregate information for decisionmaking at higher levels of the system. Such a system echoes John Naisbitt's vision of the future, " ...institutions will be organized according to a management system based on the networking model. Systems will be designed to provide both lateral and horizontal, even multidirectional and overlapping linkages."

The Model

Based on the foregoing analysis of problems in curren. evaluation practice, what would be a more productive model for improving the quality of schools? The answer flows directly from the analysis. An ideal system:

1. makes relevant information easily available to teachers, school administrators, and district and state policymakers to aid their decisionmaking;

2. enables efficient sharing of information within and across levels of the educational hierarchy, minimizing redundant, overlapping testing and evaluation requirements;

3. includes information on a range of school outcomes;

4. includes information on school context and student characteristics to contextualize outcome and effectiveness

analyses;

5. includes information on school and instructional processes to elucidate and analyze local problems and accomplishments;

6. links outcome information with instructional process and school context data to provide explanatory power for findings;

7. includes externally fixed elements to assure sensitivity to the information needs at the district and state levels and variable, locally selected elements and measures of interest to school professionals;

8. encourages data collection, analysis, and use over time;

9. builds on organizational and management strategies to facilitate system use including such things as:

-locating responsibility for defining the system dually at the school and district levels

-facilitating ownership and flexibility for local school uses

-assuring leadership support at the district and school levels

-attending to specific information and reporting needs of all groups

-making the system user-friendly and easily accessible

The model, in short, features the use of a comprehensive information base about student characteristics, school context, school and instructional process and a range of outcomes that can be analyzed, arrayed, and appropriately reported to facilitate decisionmaking at the classroom, school, district, and perhaps state levels and to satisfy reporting requirements for special programs. (Figure 1 displays an overview of the model system.) Critical to the model is that its constituent elements are collaboratively defined and its implementation managed to promote use; further, to facilitate use where education actually occurs, it is school-based.

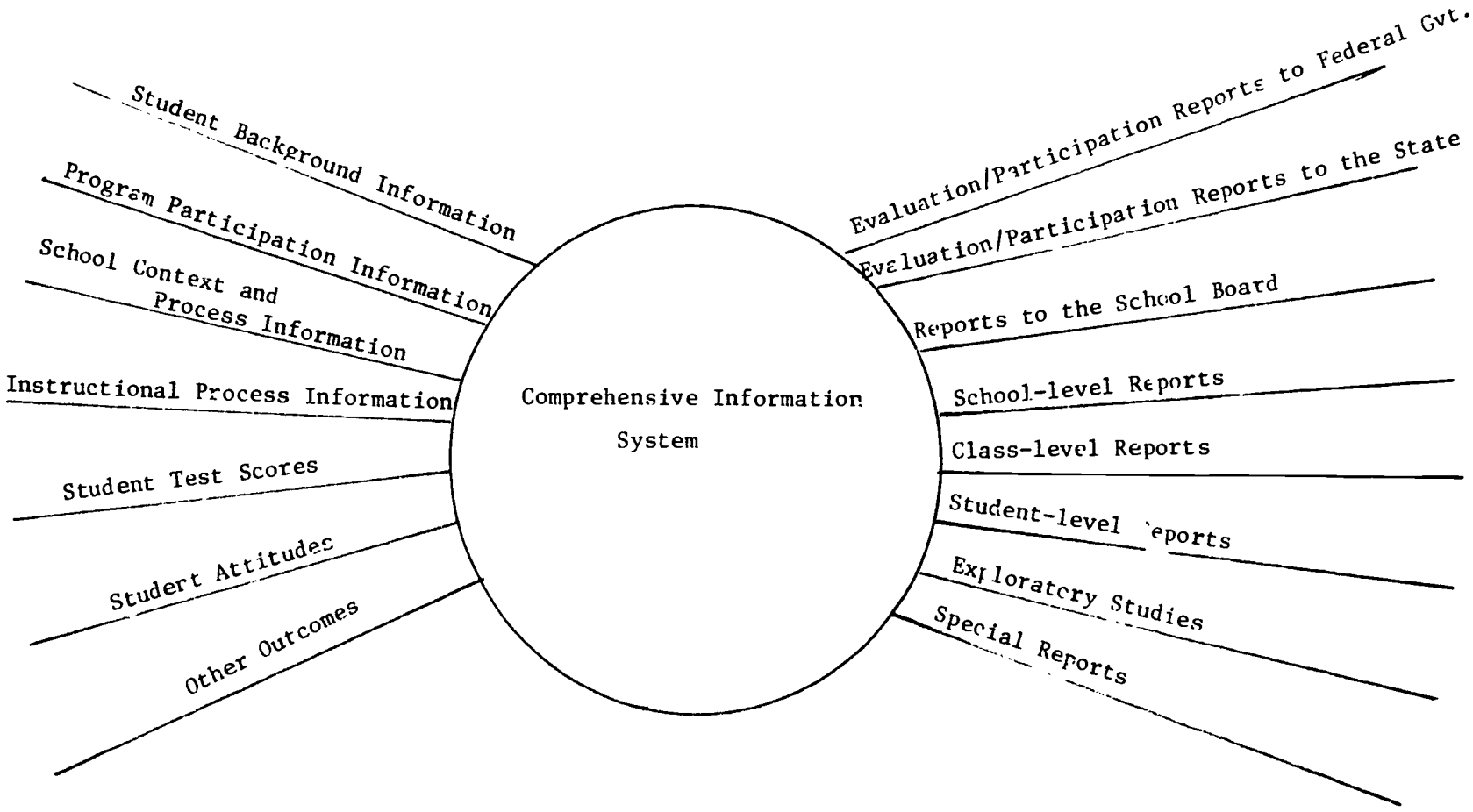
Implementation of the model depends on users' answers to a number of key questions, including what information should be included in the data base? What resources are available for acquir . he data? How shall it be analysed and reported to aid decisionmaking at different administrative levels? How can its usefulness and effectiveness be enhanced. The discussion of each of these questions below draws on an initial field trial of the model with five participating school districts.

What Information Should Be Included in the Information System?

The model stipulates a wide range of information, including student characteristics, school context, school process, instructional process, and a range of student and other outcomes. Within each of these categories an almost unlimited set of particulars exist. Which ones should be included? There are no hard and fast rules, but rather criteria against which local selections may be made: Choose for inclusion information about those things which are necessary for required reports and those things which are of greatest interest, concern and use to local users. Information necessary for required reports is the easier to identify, and typically includes such things as student attendance, ethnicity, sex, special program participation and basic skills test scores.

Information of special interest and concern to various user groups is more difficult to uncover; and the process of identifying it requires direct input and significant interaction among and between those groups. Among the questions that these groups might be encouraged to consider are the following:

- What questions do you have about the quality and operation




OVERVIEW OF MODEL SYSTEM

Figure 1

of your school program?

- What are the most important problems facing your school or district?
- What important decisions are upcoming?
- What are your school improvement priorities?

With regard to information about school and instructional processes, both educators' working knowledge and the research literature on factors that contribute to educational effectiveness and instructional quality are a rich source of ideas. The effective schools literature, for example, suggests school and classroom process variables that are potentially of interest in analyzing the strengths and weaknesses of school programs and in constituting alternative indicators of school quality, variables such as performance expectations for students, time on task, school leadership, etc. about which information could be collected.

The important point is that intended users explore the information that might best help them accomplish their responsibilities, both from the standpoint of the problems they perceive in their environment, from the standpoint of what we know about what "good" educational practice, and from the standpoint of information which can be validly and rather easily collected. Then, prioritize those information needs to define a customized information base. Table 1 lists a sample of the kinds of variables/information slots that might be included in a comprehensive system. What are the limits of the information elements that can be included? Technology provides one set of

limits in terms of the size of the data base that can be accommodated; data collection and processing poses another set of limits in terms of the time and resources required for completion; and concerns for information overload on users poses additional limits.

It is worth noting that the contents of the data base, once initially defined, need not -- and best should not -- stay constant over time. While some of the data about student characteristics and various performance indicators may in fact be relevant and required year after year, it is anticipated that various process and outcome variables would move on and off the data base, enabling schools and districts to investigate different areas within their environment over the years. Thus, for example, parent involvement might be perceived as a key problem initially, but after the problem is analyzed and acted upon, it ceases to be a concern, leaving room for the exploration of new areas. Or perhaps, like National Assessment, a district or school cycles through assessments in various subject areas in alternate years. Further, while some variables will be constant across the district, variable slots defined to meet the unique needs and interests of each school also will be necessary.

Discussion guides to help potential users articulate their information needs and identify their priorities are included in Appendix A.

How Can the Identified Data be Acquired?

Much of the required data will already be resident within school district or school files, e.g., information about student characteristics (sex, ethnicity, perhaps socioeconomic status);

Table 1
Sample Data Base

Background Information About Students

- Age
- Grade level
- Sex
- Ethnic background
- Time at current school
- Time in district
- Attendance/absence rate
- Socio-economic status
- Language status
- Special program participation

Information on Student Outcomes

- Reading achievement
- Math achievement
- Attitude toward Reading
- Attitude toward Math
- Attitude toward School

Classroom Processes

- Use of instructional time
- Expectations of achievement
- Amount of homework
- Use of individualized instruction

School Context

- School climate
- Parent participation

special program participation, standardized test scores, results of other district or school mandated tests, attendance records, time student has been resident in a particular district or in a particular school. Acquiring the data in these cases is a matter of rostering it by ID number, if necessary, and entering it by hand or electronically in the system, and/or uploading or downloading it from other data bases (e.g., district or state) according to a specified structure.

While the technological demands of the data access and entry should not be underestimated, acquiring data on the other information elements in the system also represents some challenge. This will require new data collection efforts, probably principally questionnaire-based because of resource constraints. Such data, however, could be augmented by entries of systematic teachers' or others' observations/judgments/ perceptions. The source of the new data will be determined by the nature of the information desired, with the closer to the primary source the better, e.g., student, teacher, principal, parent questionnaires depending on the information need. Several compendiums exist to help schools with this task, e.g. questionaire items assessing a broad range of outcome and process issues for teachers, for students, for parents, and for administrators developed by CSE and a similar one including other data collection techniques compiled by Research for Better Schools. Computerized banking of these items, akin to similar ones for test item banks, would greatly facilitate the development process. Schemes for regularizing and systematizing

teachers' and other professionals' judgments and perceptions need further inquiry.

Like the identification of information needs, users also could be profitably involved in the development, selection, modification and/or approval of these additional measures. Such involvement presumably would enhance the credibility of the results and thereby increase the probability of their use.

## How Should the Data Be Analyzed and Reported?

The analysis and reporting possibilities for a comprehensive data base are legion, particularly given users at the district, school, classroom levels representing a variety of different roles and responsibilities. Figures 2 to 4 display a sample of some of the possibilities at each level.

Easily available computing power and sophisticated statistical software could enable almost any and all possible analyses to be conducted. The requirements of user-friendliness and of assuring that those who are novices in computers and in data analysis are able to access and use the information mean, however, that the alternatives need to be made quite finite. Answers to several related questions are pertinent to identifying the most useful alternatives: What types of analyses should be conducted with the various data elements; at what level(s) and with what units should these analyses be conducted; and how should the results be arrayed and displayed? The answers to these questions, like those identified in previous sections, are user-based and need to be determined in close interaction with the users themselves.

The types of analyses and the levels at which they are

executed depend on the decisions to which the data is to contribute and the context of use. The process of selection, therefore, involves the interplay between what kinds of information is wanted and for what it is wanted; both questions offer potential starting points for helping users to articulate their needs, e.g., starting with what analyses are of interest and then moving to how this information could be used vs. starting with what decisions need to be made and then moving to what information and analyses would help make the decision. And moving back and forth between the two may be necessary to help users deal with such abstractions. Among the types of analyses they will want to consider are the typical range:

1. Descriptive analyses of individual elements of context, process or outcome data at a single point in time or over time.
2. Outlier analyses identifying individuals, groups above or below certain critical values on specific indicators or above or below a critical range in the score distribution.
3. Comparative or subgroup analyses which examine the performance of response of one special group and/or compares the performance of that group with another group, e.g., attitudes toward school of higher SES students versus those of lower SES; performance of students who have attended the same school for at least some minimum period of time; performance of Chapter 1 students in one district versus another.
4. Relational analyses which examine relationships among and

between outcomes, instructional processes, and school context, e.g., is there a relationship between student attitudes and their achievement? To what extent is parent involvement related to student attitudes and their achievement? Has the parent education program influenced student achievement?

The levels of analyses which can be provided also are straightforward: individual student; subgroup within class; class/teacher; school (for a particular grade or grade range); district; special program. Sample discussions guides are provided in Appendix B to help users identify their analyses and reporting needs.

While these decisions may appear relatively simple and straightforward, each subsumes a number of difficult subquestions. The answers to some of these questions are driven by what are the technically appropriate analyses, but the answers to others should be grounded in what users find easiest to comprehend. For example, with regard to descriptive analyses of student outcomes, a number of possibilities are evident: means, medians, percentages falling and below a particular point; percent falling within a particular range. Student performance in reading, for example, might be characterized as mean percentile score, the percentage of student scoring above a particular percentile point; the percentage of students scoring within a particular percentile range, the mean performance of the top 25% of the class or school --or any of these indicators based instead on a stanine score, quartile score, NCE, or grade equivalent. While the devoted analyst might well want to

consider all these statistics, and ponder the situation from a variety of perspectives, the time, patience, and technical sophistication of teachers and school administrators may quickly wear thin. Further, even given a particular statistic, the choice of meaningful cut-off or descriptive classification remains, e.g., if educators are interested in tracking over time their success in helping students achieve positive attitudes toward school, what score level represents a positive attitude, particularly if the assessment is not norm referenced? The range of data types likely to be resident within a data base, e.g., norm-referenced test data and criterion-referenced responses also brings with it additional difficulties in defining appropriate and standard benchmarks. For example, how do you define an outlier and does the definition or its computation change from one measure to the next?

The choice of analyses goes hand in hand with display and reporting options. Appendix C illustrate a range of possibilities at the individual student, classroom, school and district levels. Interestingly, while most users in our exploratory study preferred the explanatory power of graphs and pictures, all respondent groups also wanted a roster on which they might capture information on as many variables as possible --so they might have all potentially relevant information "at a glance". Teachers wanted to know everything about individual students "at a glance;" principals wanted school level information and classroom summaries "at a glance"; and district personnel similarly wanted to quickly get a sense of the district

as a whole and individual school performance. The "everything at a glance," on a single page, concept probably reflects traditional reliance on paper records; while visually unappealling and lacking in power, they nonethless seem to provide a starting point for analysis. After noting interesting points of unusual strength or weakness, on these reports, users could call up a variety of graphs to investigate the situation in greater detail. For example, suppose a school district profile indicates that students' performance in reading and writing has remained at a relatively high level over the last two years, while mathematics performance appears to be slipping. District administrators might then call up graphical displays to see whether the slippage was district-wide or concentrated in particular schools, whether performance on all subscales of the test was similar or only certain ones evidenced particular problems, whether the performance problems seemed to be associated with particular groups of students, e.g., those who were new to the school, those with language difficulties, those with poor attitudes toward math, those who were frequently absent, etc. Additional data, if available, might then be used to explore in greater detail potential sources/causes and clues to their solution.

Summary

This report has offered a preliminary outline of a comprehensive information system that can help teachers and principals improve their schools and that can likewise serve the school improvement and policy agendas at the district and higher levels. It seeks to provide all those in the educational

enterprise with a fuller picture of the quality of existing programs and practices and with a tool for investigating strengths and weaknesses, exploring local concerns and diagnosing and responding to educational needs.

A prototype data base management system for implementing such a system, based on D-base III Plus, is provided in the Appendix D.

# Appendix A

## Discussion Guides for Articulating Information Needs

Name

District/School

Position

## Formulating Evaluation Questions

The following questions are intended to help you think about your information needs and identify high priority evaluation questions. As you react to the questions below, you may want to consider issues relevant to formulating district or school policy and/or those related to improving school practice. You'll probably find that some of the questions are more meaningful to you than others; concentrate on these. Please be as specific as possible in your answers.

1 a. What questions do you have about the quality of your education program?

b. What kinds of information would help you answer these questions?

2 a. What questions do you have about the operation of your school or district?

b. What kinds of information would help you answer these questions?

3 a. What are the most important problems facing your school or district?

b. What kinds of information might help you solve these problems?

4 a. What important decisions do you need to make about your school/district?

b. What kinds of information would help your decision making?

5. What are your current evaluation mandates and/or reporting requirements?

6. What are your school improvement priorities, e.g., have you targeted specific areas for action?

7. Based on all of the above: WHAT ARE THE 5 MOST IMPORTANT QUESTIONS THAT THE EVALUATION SYSTEM SHOULD BE ABLE TO ANSWER.

Name

District/School

Position

Student Outcomes

and Characteristics

Attached is a list of recommended student outcomes and characteristics to be included in the system. They were identified based on three considerations: feasibility of accurate measurement within project constraints, research evidence on indicators of school quality and effectiveness, and local school district experience with useful indicators for planning, reporting and decision-making purposes.

Please consider the list attached and add any additional factors which you feel may be important to consider. Then mark the box next to each factor which you feel is definitely important to consider. Note that starred items * may require additional resources. Then rank the factors that you have marked as important based on: 1) their importance as common factors in the system, and 2) their importance as unique factors for your School. (Assign a "1" to the most important factor, a "2" to the second most important factor, and so on. Complete the ranking for each column separately.)

## A. Student Outcomes

| Student Outcomes | Definitely Important | Rankings: Common Factor | Rankings: Unique Factor |
|---|---|---|---|
| **Standardized Achievement Test (norm-referenced)** | | | |
| Reading | ____ | ____ | ____ |
| Math | ____ | ____ | ____ |
| Writing | ____ | ____ | ____ |
| Other: _____ | ____ | ____ | ____ |
| **District Competency Tests** | | | |
| Reading | ____ | ____ | ____ |
| Math | ____ | ____ | ____ |
| Writing | ____ | ____ | ____ |
| Science | ____ | ____ | ____ |
| Other: _____ | ____ | ____ | ____ |
| **School or Classroom Curruculum Tests** | | | |
| Reading | ____ | ____ | ____ |
| Math | ____ | ____ | ____ |
| Writing | ____ | ____ | ____ |
| Science | ____ | ____ | ____ |
| Other: _____ | ____ | ____ | ____ |
| **State Assessment** | | | |
| Reading | ____ | ____ | ____ |
| Math | ____ | ____ | ____ |
| Writing | ____ | ____ | ____ |
| Other: _____ | ____ | ____ | ____ |
| **Attitudes Toward School** | ____ | ____ | ____ |
| **Academic Self-concept** | ____ | ____ | ____ |
| **Opinion of School Climate** | ____ | ____ | ____ |
| **Attitudes Toward Other Racial/Ethnic Groups*** | ____ | ____ | ____ |
| **Parent Satisfaction** | ____ | ____ | ____ |
| **Other:** | | | |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |

## B. Student Characteristics

| Student Characteristics | Definitely Important | Rankings: Common Factor | Rankings: Unique Factor |
|---|---|---|---|
| Name | ____ | ____ | ____ |
| Birthdate | ____ | ____ | ____ |
| Sex | ____ | ____ | ____ |
| Grade | ____ | ____ | ____ |
| Class | ____ | ____ | ____ |
| Ethnic Background | ____ | ____ | ____ |
| Language Status (FEP, LEP, NEP) | ____ | ____ | ____ |
| Years at Current School | ____ | ____ | ____ |
| Attendance/absences | ____ | ____ | ____ |
| Program Designation (e.g., Chapter 1) | ____ | ____ | ____ |
| SES or Poverty Index | ____ | ____ | ____ |
| Other: | | | |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |
| _____ | ____ | ____ | ____ |

Name

District/School

Position

Instructional Practices and Processes

Context/Background Factors

Attached is a list of potential instructional process and context/background factors to be included in the system. They were identified based on three considerations: feasibility of accurate measurement within project constraints, research evidence on indicators of school quality and effectiveness, and local school district experience with useful indicators for planning, reporting and decision-making purposes.

Please consider the list attached and add any additional factors which you feel may be important to consider. Then mark the box next to each factor which you feel is definitely important to consider. Note that starred items * may require additional resources. Then rank the factors that you have marked as important based on: 1) their importance as common factors in the system, and 2) their importance as unique factors for your School. (Assign a "1" to the most important factor, a "2" to the second most important factor, and so on. Complete the ranking for each column separately.)

A. Instructional Practices

| Instructional Practices | Definitely Important | Rankings: Common Factor | Rankings: Unique Factor |
|---|---|---|---|
| Primary Learning Goals/Objectives | ___ | ___ | ___ |
| Homework Assignments | ___ | ___ | ___ |
| Instructional Time | ___ | ___ | ___ |
| Writing Assignments | ___ | ___ | ___ |
| Adult/Pupil Ratio | ___ | ___ | ___ |
| Parent Volunteers | ___ | ___ | ___ |
| Parent-teacher Contacts | ___ | ___ | ___ |
| In-class Instructional Resources (texts, supplementary materials, equipment) | ___ | ___ | ___ |
| Use of Out-of-class Instructional Resources (e.g., specialists, library, computer lab) | ___ | ___ | ___ |
| In-class Computer Usage | ___ | ___ | ___ |
| Uses of Testing/Assessment | ___ | ___ | ___ |
| Multi-cultural Instruction | ___ | ___ | ___ |
| Expectations for Conduct/Class Behavior | ___ | ___ | ___ |
| Expectations for Achievement | ___ | ___ | ___ |
| Other: | | | |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |

B. Context/Background Factors

| Context/Background Factors | Definitely Important | Rankings: Common Factor | Rankings: Unique Factor |
|---|---|---|---|
| Quality of Physical Environment | ___ | ___ | ___ |
| Teacher Satisfaction | ___ | ___ | ___ |
| Parent Involvement | ___ | ___ | ___ |
| School Climate (suspensions, expulsions, vandalisms, safety) | ___ | ___ | ___ |
| School-wide Instructional Resources (e.g., library, computer lab) | ___ | ___ | ___ |
| Other: | | | |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |
| _____ | ___ | ___ | ___ |

Appendix B

Discussion Guides for
Articulation Users' Analysis
and Reporting Needs

GROUP CONSENSUS

**WHAT WE WANT TO KNOW**

GROUP _____

This form asks you to think about the types of information you want to receive from our project. The possibilities are almost limitless, and the mounds of data that could be generated could easily exceed your ability and desire to understand and use them. The usefulness of any of the data depends on you. What information do you really want? How will you use the information? The answers to these questions will help us provide reports that are relevant to your needs.

The sections which follow ask you to think about three different types of information: descriptive, comparative, and relational. For each category of information, please specify the information or specific questions you want reported. Be sure you think about how you will actually use the information. Try to be as selective as possible. There are lots of interesting options; you will want to focus on those which will contribute to planning and decision-making. (In other words, "Wouldn't it be interesting...." is probably not sufficient justification.) A listing of available information is attached.

Descriptive Information: Descriptive information simply provides student or teacher responses at either an individual level or summarized for the group. You will want descriptive information reported on all data that are interesting in their own right, e.g., student performance in reading, in math, attitudes toward reading, student preferences in materials. For each element, please indicate whether you want the information reported for each individual student summarized for each class, summarized for the school and/or summarized for the district as a whole.

| Data Element | What will it be used for? | Level of Reporting: Indiv. | Class | Grade/ School | Grade/ District |
|---|---|---|---|---|---|
| 1. _____ | _____ | 1 | 2 | 3 | 4 |
| 2. _____ | _____ | 1 | 2 | 3 | 4 |
| 3. _____ | _____ | 1 | 2 | 3 | 4 |
| 4. _____ | _____ | 1 | 2 | 3 | 4 |
| 5. _____ | _____ | 1 | 2 | 3 | 4 |
| 6. _____ | _____ | 1 | 2 | 3 | 4 |
| 7. _____ | _____ | 1 | 2 | 3 | 4 |
| 8. _____ | _____ | 1 | 2 | 3 | 4 |
| 9. _____ | _____ | 1 | 2 | 3 | 4 |
| 10. _____ | _____ | 1 | 2 | 3 | 4 |

Comparative or Group Questions: Comparative or group questions, for our purposes, examine the performance or responses of one special group and/or compares the performance of that group with another group. (A group can be defined by any characteristic.) For example, how does the reading performance of higher SES students compare with those of lower SES students? How are students who have been in the school at least three years performing compared to students who have been here for less than three years? How does the performance of Chapter 1 students in my district compare with those in other districts?

| Comparative or Group Questions of Interest | What will it be used for? |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| 6. | |
| 7. | |
| 8. | |
| 9 | |
| 10. | |

Relational Questions: Relational questions, for our purposes, looks at relationships among and between outcomes, instructional processes, and school context. For example, is there a relationship between student attitudes and student achievement? Is the amount of homework related to student achievement? To what extent is parent involvement related to student attitudes and achievement?

| Relational Questions of Interest | What will it be used for? |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| 6. | |
| 7. | |
| 8. | |
| 9. | |
| 10. | |

S. Based on this review, are there data elements that are of little interest? That is, information that does not need to be collected? If yes, please indicate: