A Comprehensive System for
the Evaluation of Schools

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Dallas Public Schools

This paper describes a three tier accountability system. District goals and desired outcomes are established through a districtwide planning process and operationalized through the District Improvement Plan. Each school's role in helping the District to meet its goals is determined through an analysis of the District's most effective schools. A great deal of emphasis is placed on providing information for decision-making at every level in the system. Accountability is operationalized in a criterion-referenced manner through an analysis of goal attainment through the District Improvement Plan and each school's School Improvement Plan. School effectiveness indices are used to evaluate schools in a fair, value-added manner and to set meaningful objectives for the District and School Improvement Plans.

As the nation progresses through the decade of the nineties, there is increased pressure from many segments of society for better educational accountability. This desire for accountability is often accompanied by societal skepticism about educators and the quality of the job that they are perceived to be doing. Many State Education Agencies have initiated programs that have increased focus on educational outcomes (Council of Chief State School Officers, 1995; Dotsweller and Ramee, 1986, Southern Regional Education Board, 1990). At the national level there is serious talk of a national achievement test (America 2000, 1991). In Dallas, a group of citizens appointed by the Board of Education developed a comprehensive plan for the improvement of Dallas Schools (Commission for Educational Excellence, 1991). This plan called for rapid conversion from a school

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system to a system of schools and highlighted accountability as the linchpin for improvement.

Meanwhile, local schools are becoming more autonomous. Even if the pressure for accountability did not exist at the policy levels alluded to above, the need for accountability at the local level as schools move toward more autonomy and more control of their resources becomes crucial. Site-based management carries with it a heavy site-based responsibility for assuring that students receive an adequate education. Accountability is the cornerstone on which a system of site-managed schools is built. The school-level accountability system must provide adequate data for site-level and oversight decision-making as well as for accountability to the various clients of the school system.

The accountability system that is being implemented in the Dallas Public Schools, and is the subject of this paper, is a three-tier system. The first tier focuses at the school level. Under the District's plan to move from a school system to a system of schools, each school is held responsible and accountable for many aspects of its own operation. School Improvement Plans are the vehicles through which this is accomplished. The second tier of the system involves the District Improvement Plan. The District Improvement Plan sets the desired levels on District accountability objectives and specifies how Central Office Divisions support the schools. The third tier involves school effectiveness indices. These indices take into consideration important student background and school contextual variables and provide information on how effective schools are with the students that they serve. The School Improvement Plan and District Improvement Plan components of the system focus on the end products of schooling, while the indices add a value-added component to the system.

One of the major concerns related to most accountability systems should be that of fairness. Educators who are caught up in the accountability movement have a right to know that the standards by which they are judged are fair. The system outlined in this paper incorporates fairness as defined by the Program Evaluation Standards (Joint Committee on Standards for Educational Evaluation, 1994) and the Standards for Educational and Psychological Testing (AERA, APA, NCME, 1985).
The District's plan for school-centered education focuses control of most available resources as well as all instructional decisions at the school level (Edwards, 1993). The only decisions that school level committees are not empowered to make are those involving the nature and magnitude of outcomes for which they are being held accountable. An extremely important step in the school improvement process is that of determining the important performance indicators that will inform educators, parents, and community members whether or not students are making satisfactory progress in the key developmental pathways that are critical for academic learning. In Dallas, these performance indicators are determined by an Accountability Task Force and influenced by the State's Academic Excellence Indicator System. The accountability indicators are consistent across the three tiers of the accountability system.

The Accountability Task Force

The Accountability Task Force is a 27 member committee, appointed by the Board of Education, charged with the responsibility of overseeing the District's accountability system. The membership includes four elementary teachers, three middle school teachers, four high school teachers, four principals, four parents, five members of the business community, and three central office administrators. In addition, the various employee organizations each have an ex officio member on the task force. This task force deals with many aspects of the accountability system including methodology, testing, determining and weighting important performance variables, and determining the rules for financial awards that are related to the accountability system. The Accountability Task Force also hears any concerns or grievances relative to the accountability system.

The School Improvement Process

The District uses the CIPP evaluation model (Stufflebeam, et.al., 1971). Figure 1 provides a schematic depicting how the school improvement process functions within the parameters of site-based decision-making. Each school receives an annual needs
assessment specifying school levels on important outcome variables. These data are available in July for use in developing the School Improvement Plans and District Improvement Plans. The important outcomes of instruction are determined through District-wide assessment of all of the groups involved in the educational process. School program planning is implemented at the school level by the School Community Council. Planning focuses on determining the best method to proceed from current levels of important outcomes to desired levels of those outcomes and culminates in the production of a strategic plan, the School Improvement Plan. Standards of performance are established based on the District's most effective schools from the previous year.

Specifically, once the needs assessment has identified needs, school staff must prioritize those needs and focus on reducing the discrepancy between desired and existing outcomes by establishing goals for those needs that receive highest priority. Schools are aided in this process by data on how well the District's most effective schools have done in achieving specific goals of instruction. Once priorities are established, schools must determine methods of resource utilization for accomplishing program goals.

Site-based management does not assume that local building staffs necessarily know how to solve all of their problems. It does, however, place decision-making responsibility and accountability at the local level. Central staff become resources to the schools whose function it is to provide viable alternatives to solving school problems. The principal is ultimately responsible and accountable for meeting the important objectives of instruction. Central staff is responsible and accountable for providing viable alternatives for consideration by school staff. This procedure is the input evaluation phase of the school improvement process and will only work if Central Office Divisions are competent and can supply the needed expertise. If the needed expertise does not reside in the appropriate Central Office Divisions, schools will not request needed services and the entire system will probably fail to produce the continuous improvement that it is designed to accomplish.

22 The School Community Council is the local school advisory group to the Principal. It consists of staff, parents, and community members.
After the collection of relevant input information feeding a preliminary program planning stage, school level decision-making groups determines whether or not sufficient resources are available to make the desired changes. Quite often, sufficient resources are not available and some compromise is necessary. In many cases, the lack of resources is not limited to the realm of cost and political feasibility, but rather stems from an insufficient base of knowledge. Thus, educators are often in the position of having sufficient material resources but insufficient information resources. Once these decisions are made, the School Improvement Plan is complete.

The program implementation phase is then entered and each individual school staff is responsible for providing continuous formative feedback relative to program implementation. This feedback falls primarily into two categories - process evaluation and interim product evaluation. Process evaluation has three major objectives: (1) the detection or prediction of defects in procedural design or its implementation during program implementation stages, (2) the provision of information for programmed decisions, and (3) the maintenance of a record of the implementation procedure as it occurs. Thus, process evaluation information keeps the school Community Council informed of the extent to which program implementation conforms to specifications and, from an evaluation standpoint, guards against the evaluation of fictitious events. It also provides a record of implementation that can be cross-indexed to program effect.

Much of the process evaluation which was at one time implemented by evaluation personnel now must be implemented at the local level. This is consistent with the accountability emphasis that is currently the philosophy of District management and the community. Since process evaluation is extremely expensive and is crucial to the improvement of instruction, most of it is currently implemented by school staff as part of their ongoing instructional delivery system. Process evaluation is thus focused on obtaining information for improvement.

Interim product evaluation provides periodic feedback to the schools relative to the attainment of specific sub-objectives during the implementation phase. Thus, process and interim product evaluation reports inform program management as to implementation and goal attainment levels while program adjustments are still feasible. Much of the interim
product evaluation can be done through portfolios of student work, performance testing, protocol analysis, and teacher-made tests; measures that are not available through systemwide data. In cases where serious needs are identified by interim product evaluation reports, tactical plans are developed as supplements to the School Improvement Plan to meet these needs.

An important part of the Dallas Public Schools' interim product evaluation is the Diagnostic Skills Profile (DSP). These instruments are focused on the objectives of instruction in reading and mathematics and provide systematic feedback to teachers on how well their students perform relative to those objectives. The DSPs can be administered over a one month period, produce profiles of student learning, and are scored and returned to the teacher within two weeks. They are administered by teachers in the Fall and Spring in grades K-9, in the Fall in grades 10, and are available in Spanish in grades K-6. Results are used strictly for instructional improvement. District teacher groups were the major impetus for the development of this system.

Local school staffs are encouraged to design, implement, and interpret action research studies. With the movement of the District to site-based management and the related reduction of Central Office Staff, it is impossible to supply school staffs with information produced centrally pertaining to all of their many and varied needs. Action research is a process for problem-solving that is designed and implemented at the local building level. It is a process of taking and studying action and its corresponding consequences so that more effective action may be taken (Lewin, 1946, Trow 1972).

Expressed sequentially, action research requires a continuous recycling through four steps: (1) identification of needs, (2) development of plans of action to address these needs, (3) execution of these plans of action, and (4) formative evaluation of these plans. In open organizations such as schools, the strength of action research lies in its implementation by the organizations' members in their respective work sites. In effect, members of the organization actively learn while they study problems in contexts that they generally perceive as relevant and important. The results are used to supplement the more formal information available from the District's Evaluation Department.
Upon completion of a given cycle of program implementation, usually one year, a series of summative product evaluation reports are prepared. These reports take the form of the Special Report on Pupil Achievement (REI591-102), a school-level report that provides up to four years of disaggregated data on all relevant outcome and input variables and is used to determine whether or not schools met their School Improvement Plan goals for the previous year and to establish goals for the coming year. School Effectiveness Indices, and program evaluation reports disaggregated by school. In addition, data are provided in a user-friendly format that addresses the degree to which schools have met or failed to meet their School Improvement Plan goals. These reports, as well as relevant action research studies compiled by school staff, become the needs assessments for the next year's program adjustments.

The District Improvement Plan

The District Improvement Plan presents targets and corresponding strategic plans of action with a planning horizon of five years. Since the District has a number of concerned audiences, the plan must meet the accountability objectives and strategic planning requirements of the General Superintendent, the Board of Education, the Texas Education Agency, and the United States District Court. The District Improvement Plan meets the four major requirements of a strategic planning system in that it receives input from all District departments and campuses; it sets accountability targets and minimum standards of performance for the District and each of its schools; it provides systemwide plans of action for meeting the major targets of the District, and, it specifies the methodology required for monitoring its implementation.

The District Improvement Plan contains the strategic plans of each of the District's support divisions relative to their contributions to meeting each of the District's targets. It also contains the desired levels of District outcomes by 2001 and the intermediate steps necessary to get from 1998 levels to those desired outcomes. It is directly related to the School Improvement Plans in that outcome levels that are specified in each of the School Improvement Plans are those levels that will help the District reach its goals. The District
Improvement Plan sets the criterion level for desired outcomes. Goals are absolute. All schools could make them or no schools could make them, that is, target accomplishment is not determined by a norm group. However, because individual school goals are established based on the performance of the most effective schools from the previous year, the District would have a very good year if all schools made their goals.

Obviously, a great deal of training must occur if school staffs are to utilize available data and objectively collect and interpret additional data for aid in improving their schools. Training modules for school staffs are currently being developed in keeping and scoring student portfolios of work, designing and scoring performance tests, conducting protocol analysis, developing teacher-made tests, interpreting and using data, and designing and conducting action research.

Accountability without information for diagnosis and improvement is of limited utility. In designing an accountability system, it is important to analyze data needs at each point in the organization. Data needs at the teacher level should be identified and those data aggregated upward and summarized to meet information demands at each successive level of the organization. It is essential that the system provide teachers with the information necessary to improve instruction. Without instructional improvement, accountability alone cannot improve a school system.

School Effectiveness Indices

The final tier of the accountability system is the most important from the standpoint of defining and rewarding outstanding schools. Inherent in the task of identifying outstanding schools are two complex issues:

- how to define effectiveness, and
- how to develop a model to assess effectiveness.

For accountability purposes, the only fair and equitable method of comparison among and between schools is one that statistically adjusts the outcome variables by the important inputs that relate to those outcomes but are not under the control of the schools. The difference between predicted and actual achievement can then be interpreted as a
comparison with other statistically similar schools, and as the school's own effect on achievement. It is important to note that a longitudinal data base is necessary for these types of studies since cohorts must be used in the analyses.

The Anatomy of Effectiveness Indices

The school effectiveness methodology, as implemented in the Dallas Public Schools, defines a school's effectiveness as being associated with exceptional measured performance above or below that which would be expected across the entire District. When a school's population of students departs markedly from its own preestablished trend or from the more general trend of similar students throughout the District, this departure is attributed to school effect. The problem of measuring a school's effect, then, becomes one of establishing the student levels of accomplishment on the various important outcome variables, setting levels of performance based on these expectations, and determining the extent to which its students, on the average, exceed or fall short of expectation. The procedures involve the use of hierarchical linear modeling with student level variables and multiple regression analysis with aggregate school level variables to compute prediction equations by grade level for each outcome variable and then using these equations within schools to obtain gains over expectations. Relative weights are assigned to the outcomes by the Accountability Task Force. Once weighted levels of performance have been determined, the methodology provides an indicator of how well a school performs relative to other schools throughout the District. The same targets that were used in the School Improvement Plan and District Improvement Plan processes are used as outcome variables in the school effectiveness indices. Thus schools work on improving target variables in an absolute sense through their School Improvement Plans and are judged both in terms of meeting their goals and in terms of a normative rank through the effectiveness indices. The effectiveness indices are also used to establish meaningful targets for the School Improvement Plan.

School performance on the effectiveness indices is considered in terms of overall District patterns on the important outcome variables. If the District experiences a year of greatly increased achievement, individual school ranks on the effectiveness indices are not
so important as long as improvement is shown. However, because of the link between the effectiveness indices and School Improvement Plan goals, should such a year occur most schools would meet their School Improvement Plan objectives. The emphasis of the methodology is on the valid identification of effective schools. Once effective schools are reliably and validly identified, detailed studies can be done of the process variables that contributed to their effectiveness.

The first step in developing the effectiveness methodology involves what educational practitioners have called "leveling the playing field". The Accountability Task Force, as well as most practitioners, was extremely concerned that all schools, regardless of the students that they served, had an opportunity to rank high on the effectiveness indices if they improved. Thus, the first step in developing the equations was to eliminate the variance in outcomes associated with student contextual variables over which the schools had no control. To accomplish this each outcome and predictor variable was regressed on a set of important student background variables and their interactions to produce a set of residuals for each of the predictor and outcome variables. (Weister, Mendro, and Almaguer, 1992).

The basic OLS regression model is generated from the standard OLS equation. This is represented by equation 1 for student-level variables:

\[
Y_i = \beta_0 + \beta_1 X_i + r_i
\]

(1)

where

\[
r_i \sim N(0, \sigma^2)
\]

Using this model, the \( Y \) represents any of the predictor or outcome variables in the system. The \( X \)s represent predictor variables used in the first-stage equations. These values are student demographic variables without reference to school at the moment.) After a solution is found for each \( X \), the model is solved for each student and the value of the residual \( r_i \) is determined. This value of \( r \) represents the portion of the student's score that can be attributed to background variables plus any individual error for the student on the particular outcome measure \( Y \). This equation is solved for each of the possible \( Y \)
variables and the student residuals determined for each student. Student level variables included in the first stage are:

\[ Y_{ij} = \text{Outcome variable of interest for each student } i \text{ in school } j, \]
\[ X_{1ij} = \text{Black English Proficient Status (1 if black, 0 otherwise)}, \]
\[ X_{2ij} = \text{Hispanic English Proficient Status (1 if Hispanic, 0 otherwise)}, \]
\[ X_{3ij} = \text{Limited English Proficient Status (1 if LEP, 0 otherwise)}, \]
\[ X_{4ij} = \text{Gender (1 if male, 0 if female)}, \]
\[ X_{5ij} = \text{Free or Reduced Lunch Status (1 if subsidized, 0 otherwise)}, \]
\[ X_{6ij} = \text{Block Average Family Income}, \]
\[ X_{7ij} = \text{Block Average Family Education}, \]
\[ X_{8ij} = \text{Block Average Family Poverty Level}, \]
\[ X_{9ij} = \text{Indicates the variable } k \text{ of } i^{th} \text{ student in school } j \text{ for } i = 1, 2, ..., \text{i}, \]
\[ j = 1, 2, ..., J. \]

The stage one equations appear as follows:

\[ Y_{ij} = \lambda_0 + \lambda_1 X_{1ij} + \lambda_2 X_{2ij} + \lambda_3 X_{3ij} + \lambda_4 X_{4ij} + \lambda_5 X_{5ij} + \lambda_6 X_{6ij} + \lambda_7 X_{7ij} + \lambda_8 X_{8ij} + \lambda_9 X_{9ij} + \alpha_{ij} + \gamma_{ij}, \]

\[ \gamma_{ij} = \alpha_{ij} X_{1ij} + X_{2ij} + \lambda_{10} X_{3ij} + \lambda_{11} X_{4ij} + \lambda_{12} X_{5ij} + \lambda_{13} X_{6ij} + \lambda_{14} X_{7ij} + \lambda_{15} X_{8ij} + \lambda_{16} X_{9ij} + \alpha_{ij}. \]

The reader will note that the first stage OLS regression equations include first and second level interactions. These equations account for between nine and twenty percent of the variance in student achievement.

Hierarchical linear modeling is then used on the residuals of both the outcome and predictor variables. Student level equations are developed utilizing individual student data rather than school means. Satisfactory prediction was achieved in all cases without having to go back more than one year \((R^2 \geq 0.70)\). This maintained the degrees of freedom associated with the equations. A previous model that was utilized by the District in 1984 used a variant of time-series analysis, but since this model required at least three years of historical data, it suffered from severe subject mortality due to a high student mobility rate (Webster and Olson, 1988). Sanders and Horn (1995) use five years of data in their equations in the Tennessee value-added system but they estimate missing data points as part of their procedures.
The standard equations for the random effects HLM model are given in equations 2-4 for a single level 1 predictor and a single level 2 conditioning variable. Note that level 1 contains a model of school level data. The two types are modeled simultaneously in an HLM model. As of data in the case of the OLS regression model, these equations can be expanded by the inclusion of more level 1 student predictor variables ($X_j$) and the inclusion of more level 2 school conditioning variables ($W_j$). School effects are estimated directly from shrinkage-adjusted empirical Bayes residuals resulting from the application of the HLM model (Bryk and Raudenbush, 1992). A series of research papers developed by Dallas staff contain more explicit formulations of the model under many different conditions. The interested reader is referred to Webster, et. al., (1995,1996,1997,1998), Mendso, et. al., (1995), Orsak, et. al., (1997), or Weeseringte, et. al., (1997) for more detailed models and discussions of these applications.

\[
\begin{align*}
\text{Level 1} & \quad Y_{ij} = \beta_0 + \beta_j X_{ij} + r_{ij} \\
\text{Level 2} & \quad \beta_j = \gamma_0 + \gamma_1 W_j + u_{ij} \\
\beta_{ij} & = \gamma_{10} + \gamma_{11} W_j + u_{ij} \\
\text{where} & \\
& \quad r_{ij} \sim N(0, \sigma^2) \\
& \quad u_{ij} \sim N(0, \tau_{10}) \\
& \quad \text{Cor}(u_{ij}, u_{ij}) = \tau_{11} = \tau_{10}
\end{align*}
\]

The HLM models utilized in Dallas are two-stage, two-level random models that include a number of school level contextual variables. These variables include:

- $W_{ij}$ = School Mobility.
- $W_{ij}$ = School Overcrowdedness.
- $W_{ij}$ = School Average Family Education.
- $W_{ij}$ = School Average Family Education.
- $W_{ij}$ = School Average Family Poverty Index.

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\[ W_i = \text{School Percentage on Free or Reduced Lunch.} \]
\[ W_j = \text{School Percentage Minority.} \]
\[ W_k = \text{School Percentage Black.} \]
\[ W_{1ij} = \text{School Percentage Limited English Proficient.} \]
\[ W_{1ij} = \text{School Percentage Teacher Instructional Days Lost To Medical Disability and Unfilled Vacancies.} \]

The stage two equations appear as follows:

**Level 1:**

Criterion Variable \( R_{i, 98} = \beta_0 + \beta_1 R_{i, 97} + \cdots + \beta_n R_{i, n} + \delta_i \)

\[ \delta_i \sim N(0, \sigma^2). \]

**Level 2:**

\[ \beta_k = \gamma_0 + \gamma_k W_{1ij} + \gamma_{12} W_{1ij} + \cdots + \gamma_{1n} W_{1ij} + \epsilon_k \]

for \( k = 0, 1, 2, \ldots, n \).

\[ E[\epsilon_k] = 0, \ \text{Var( Cov[\epsilon_k, \epsilon_l] = \tau, \text{ and } u_k \perp \delta_i} \]

\[ SE_{\epsilon_k} = u_0 \]

To summarize, the models have the following steps:

1. School variables are predicted in a regular OLS regression using two years of prior outcome variable data. Effectiveness scores are computed from the residuals of the regression. School level variables have not been discussed in this paper but involve the use of basic OLS regression models to obtain school level residuals. (For details about the school level models see Webster et al., 1998.)

2. Student variables are predicted from two-stage, two-level modified OLS regression and HLM models.

3. The first stage of the student variable process regresses outcome variables and prior predictor variables against student-level concomitant variables, adjusts the residuals for homogeneity, and provides residuals for the HLM stage.
4. The second stage of the student variable process uses one year of prior level residuals from the first stage to predict the outcome residuals from the first level in a two-level HLM random effects model with an array of school-level conditioning variables at the second level.

5. The results of each HLM analysis by student outcome variable and the school-level outcome variable OLS regressions are standardized and weighted by Accountability Task Force determined weights.

6. The weighted results are combined to give a total school effectiveness estimate for each school.

The Accountability System includes a number of criterion variables. Student level variables include Iowa Tests of Basic Skills, grades 1 through 8, reading and mathematics; Tests of Achievement and Proficiency, grade 10, reading and mathematics; student attendance; Texas Assessment of Academic Skills, grades 3 through 8 and 10, reading, mathematics, writing, social studies, and science; Texas Assessment of Academic Skills-Spanish, grades 3 through 6, reading, writing, and mathematics; Spanish Assessment of Basic Education, grades 1 through 6, reading and mathematics; Assessments of Course Performance, grades 9 through 12, reading/language arts, mathematics, social studies, science, world languages, and ESL; Woodcock-Munoz Language Survey, grades 1 through 6; Scholastic Aptitude Test, verbal and quantitative; American College Test; and Preliminary Scholastic Aptitude Test, verbal and quantitative. School level variables include promotion rate, graduation rate, percent tested on the Preliminary Scholastic Aptitude Test; the Scholastic Aptitude Test, and the American College test, dropout rate, percent of students enrolled in Pre-Honors and honors courses, percent of students enrolled in advanced placement courses, and percent of students passing advanced placement examinations.

Authentic Assessment and Performance Testing

Schools are encouraged to use portfolio, protocol analysis, and other forms of authentic assessment in monitoring their programs. This information can then be used to provide evidence of accomplishment in instances where the more standard types of assessment fail to show progress. Performance testing was being built into the District's
Assessment of Course Performance (ACP) tests. The ACPs are final standard examinations in 143 courses, grades 7-12. One hour was to be multiple choice while the other hour was to be performance tests. The performance testing was vetoed by school administrators because it was too much work and it did not help their students drill and practice for the state test.

While it is not certain that the necessary reliability across scores on the performance tests is attainable, it is important that the message be communicated to teachers that the kinds of skills and activities measured by performance tests are the kinds of skills and activities that the District wants them to teach their students. Early evidence on performance tests suggests that they are much more difficult than the average multiple choice tests (Dryden 1991). Figure 2 shows the formative and summative data currently available to the schools. Indicators that are collected centrally and provided to schools are specified with an "E". Formative indicators that should be part of a school’s "action research" process are specified with a "C".

SUMMARY

This paper has described a three tier accountability system. District goals and desired outcomes are established through a District wide planning process and operationalized through the District Improvement Plan. Each school’s role in helping the District to meet its goals is determined through a School Community Council which ensures involvement at the local campus level. Accountability is operationalized in a criterion-referenced manner through an analysis of absolute outcomes relative to school and District performance on goals specified in the District Improvement Plan and the School Improvement Plans, and in a norm-referenced manner through school effectiveness indices. Goals in the School Improvement Plans are determined based on the District’s most effective schools and their staffs.

Besides providing an objective procedure for identifying effective schools, the program has a number of practical advantages. First, and most important, it is designed to foster teamwork among school staffs within schools. In order to achieve the necessary improvements in student outcomes, school staffs must work together in a coordinated
effort. The program does not reward individual competition among teachers within schools.

Second, the program focuses attention on the important outcomes of schooling. The Accountability Task Force, as well as many other groups associated with the schools, are discussing what it is that the schools are about. The process of weighting the outcome variables, a procedure that is done annually, gives many divergent groups the opportunity to share their views relative to the purposes and importance of schooling. While the accountability system alone will not improve instruction, the curriculum and instructional delivery processes that must be changed to impact the defined outcomes will.

Third, the procedures described afford all schools an opportunity to be distinguished as an effective school independently of their student populations status on the achievement continuum. The emphasis is on effectiveness with the students who come in the door, not absolute outcome levels. The techniques reward those schools that impact the most students the most positively (Webster, et al., 1997).

Many District and State accountability systems include District and School Improvement Plans that encompass absolute goals. The addition of effectiveness indices makes the accountability system valid and fair. Among the advantages of this type of approach are that each school’s performance is not judged by simple examination of raw outcome variables, but instead by comparing its student outcome levels with empirically determined expectations based on individual student histories; that schools derive no particular advantages by starting with high-scoring or low scoring students of any particular ethnic or economic group; that schools are only held accountable for the outcome levels of continuously enrolled students, that is students who have been exposed to their instructional program; that adequate time for test make-up is allowed and schools must test 95% of their eligible students; and, a Task Force representing all of the important groups that have a stake in schooling determines the important outcomes of schooling and their respective weights in the equation.

In summary, the school evaluation model discussed in this paper has a number of elements that are important to ensuring utility, feasibility, propriety, and accuracy of results. These elements include:
• It is value-added.

• It includes provisions for context, input, process, and product evaluation.

• The accountability system is under the control of a representative group of school constituents.

• It includes a broad array of outcome measures.

• The achievement analyses are based on continuously enrolled students, that is, students who have been exposed to the school’s instructional program.

• It contains provisions to test virtually all students.

• It controls for a broad array of student and school level contextual variables over which the schools have no control.

• It includes prior measures of all outcome variables.

• It provides information for improvement.

References


Figure 1. Schematic Depicting the School Improvement Process

NEEDS ASSESSMENT

School Program Planning Goal and Objective Setting
(Site-based Decision-Making Group)

Strategic and Operational Planning

School Improvement Plan

INPUT

Previous Evaluation Reports
Reviews of Literature
Action Research
Basic Research Information
Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

In-Course Adjustments

Determined by the Site-based Decision-making Group

Pretest Evaluation and Interim Product Evaluation
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- Fall Grade: 65%
- Spring Grade: 75%

**Notes:**
- Fall Grade is based on three tests and two projects.
- Spring Grade is based on four tests and one project.
- Both grades are satisfactory.

**Actions:**
- Review areas of weakness.
- Seek extra help if necessary.
- Stay consistent with study habits and homework.

**Parent Communication:**
- Regular updates on progress.
- Meeting with the teacher to discuss further strategies.

**Suggested Activities:**
- Practice math problems daily.
- Read a book from a variety of genres.
- Attend additional tutoring sessions.

**Conclusion:**
- The student is making progress but should focus on improving math and English skills.
- Encouragement and continued support from home are recommended.
<table>
<thead>
<tr>
<th>Indicator</th>
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<tbody>
<tr>
<td>1.2.6a.9</td>
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<tr>
<td>6.6.9</td>
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<td>6.6.9</td>
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<tr>
<td>4.4.6.9</td>
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<tr>
<td>4.8.6.9</td>
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<tr>
<td>4.3.6.9</td>
</tr>
</tbody>
</table>

**Periodic Qualitative Report:**
- 6.6.9 by director
- 4.4.6.9 by school
- 4.8.6.9 by headteacher
- 4.3.6.9 by school

**School Self-evaluation:**
- 4.4.6.9 by school
- 4.8.6.9 by headteacher

**Formative Evaluation Survey:**
- 4.3.6.9 by counselor

**Interim Evaluation:**
- 4.8.6.9 by school
- 4.3.6.9 by headteacher

**Strategic Teacher Survey:**
- 4.3.6.9 by headteacher

**Note:** All evaluations are submitted at the end of the academic year.
<table>
<thead>
<tr>
<th>Decision-Making</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
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<td>6/7/9</td>
<td>4/6/7</td>
<td>2/4</td>
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<td>6/7/9</td>
<td>4/6/7</td>
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</tbody>
</table>

**Decision-Making**

- E: Action
decision on the student's progress
- F: Next steps
- G: Next steps

**Indicators**

| Purpose | Progress | Audience | Format | Short | SP
|---------|---------|---------|--------|-------|---
|         |         |         |        |       |   

The report provides detailed information on which trends will be discussed:

- General trends in student attendance and behavior
- Significant changes in student performance and achievement
- Implementation of intervention programs and strategies
- Next steps for improvement and support

**Figure 1:** Summary of Indicators and Trends Relative to Schools
<table>
<thead>
<tr>
<th>Page</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Comments and performance outcomes.</td>
</tr>
<tr>
<td>23</td>
<td>Process evaluation of reports, monitoring of implementation of 122.44.</td>
</tr>
<tr>
<td>24</td>
<td>Student performance.</td>
</tr>
<tr>
<td>25</td>
<td>Percent change in mean performance.</td>
</tr>
<tr>
<td>26</td>
<td>By different factors.</td>
</tr>
<tr>
<td>27</td>
<td>By school improvement index.</td>
</tr>
<tr>
<td>28</td>
<td>Teacher improvement index.</td>
</tr>
<tr>
<td>29</td>
<td>School improvement data.</td>
</tr>
<tr>
<td>30</td>
<td>Improvement performance.</td>
</tr>
</tbody>
</table>
Figure 2. Schematic Depicting the School Improvement Process

School Program Planning Goal and Objective Setting (Site-based Decision-Making group)

Strategic and Operational Planning

INPUT

Previous Evaluation Reports
Reviews of Literature
Action Research Information
Basic Research Information
Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

In-Course Adjustments

Process Evaluation, and Interim Product Evaluation

Determined by the Site-based Decision-making Group

Campus Improvement Plan
Figure 2. Schematic Depicting the School Improvement Process

School Program Planning Goal and Objective Setting (Site-based Decision-Making Group)

NEEDS ASSESSMENT

Strategic and Operational Planning

INPUT

Previous Evaluation Reports
Reviews of Literature
Action Research
Basic Research Information
Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluations

Program Implementation within School

In-Process Adjustments

Process Evaluation and Interim Product Evaluation

Determined by the Site-based Decision-making Group
Figure 1. Schematic Depicting the School Improvement Process

INPUT
- Previous Evaluation Reports
- Reviews of Literature
- Action Research Information
- Basic Research Information
- Applied Research Information

School Program Planning Goal and Objective Setting (Site-based Decision-Making Group)
- Strategic and Operational Planning

School Improvement Plan

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

In-Course Adjustments

Determined by the Site-based Decision-making Group

Process Evaluation and Interim Product Evaluation
Figure 1. Schematic Depicting the School Improvement Process

NEEDS ASSESSMENT

School Program Planning Goal and Objective Setting (Site-Based Decision-Making Group)

Strategic and Operational Planning

INPUT

Previous Evaluation Reports

Reviews of Literature

Action Research

Basic Research Information

Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

Process Evaluation and Interim Product Evaluation

Determined by the Site-based Decision-making Group

In-Process Adjustments
Figure 1. Schematic Depicting the School Improvement Process

NEEDS ASSESSMENT → School Program Planning Goal and Objective Setting (Site-based Decision-Making Group) → Strategic and Operational Planning → School Improvement Plan

INPUT

Previous Evaluation Reports ← Reviews of Literature ← Action Research Information ← Applied Research Information

Interpretation by Site-based Decision-making Group ← Program/School Evaluation ← Program Implementation within School

In-Course Adjustments ← Process Evaluation and Interim Project Evaluation

Determined by the Site-based Decision-making Group
Figure 1. Schematic Depicting the School Improvement Process

School Program Planning Goal and Objective Setting (Site-based Decision-Making Group)

Strategic and Operational Planning

INPUT

Previous Evaluation Reports
Reviews of Literature
Action Research
Thesis Research Information
Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

In-Course Adjustments

Determined by the Site-based Decision-making Group

Process Evaluation and Interim Product Evaluation

School Improvement or Effectiveness Indicators, Other Summative Assessments
Figure 1. Schematic Depicting the School Improvement Process

1. **Needs Assessment**
2. **School Program Planning**
   - Goal and Objective Setting
     (Site-based Decision-Making Group)
   - Strategic and Operational Planning
3. **Input**
   - Previous Evaluation Reports
   - Reviews of Literature
   - Action Research
   - Basic Research Information
   - Applied Research Information
4. **Interpretation by Site-based Decision-making Group**
5. **Program/School Evaluation**
6. **Program Implementation within School**
7. **School Improvement or Effectiveness Indices, Other Summative Assessments**
   - In-Course Adjustments
8. **Process Evaluation and Interim Product Evaluation**

Determined by the Site-based Decision-making Group
Figure 1. Schematic Depicting the School Improvement Process

School Program Planning (Goal and Objective Setting - Site-based Decision-Making Group)

Strategic and Operational Planning

INPUT

Previous Evaluation Reports
Reviews of Literature

Action Research
Basic Research Information
Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

School Improvement Plan

Determinants by the Site-based Decision-making Group

Process Evaluation and Internet Product Evaluation

% Course Adjustments
Figure 1. Schematic Depicting the School Improvement Process

1. **Needs Assessment**
2. **School Program Planning Goal and Objective Setting** (Site-based Decision-Making Group)
3. **Strategic and Operational Planning**
4. **School Improvement Plan**
5. **INPUT**
   - Previous Evaluation Reports
   - Reviews of Literature
   - Action Research Information
   - Basic Research Information
   - Applied Research Information
6. Interpretation by Site-based Decision-making Group
7. **Program/School Evaluation**
8. **Program Implementation within School**
9. School Improvement or Effectiveness Indices, Other Summative Assessments
10. **In-Course Adjustments**
12. Determined by the Site-based Decision-making Group
Figure 1. Schematic Depicting the School Improvement Process
Figure 1. Schematic Depicting the School Improvement Process

- Needs Assessment
- School Program Planning Goal and Objective Setting (Site-based Decision-Making Group)
- Strategic and Operational Planning
- School Improvement Plan

INPUT

- Previous Evaluation Reports
- Reviews of Literature
- Action Research
- Basic Research Information
- Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

School Improvement or Effective Indices, Other Summative Assessments

In-Course Adjustments

Determined by the Site-based Decision-making Group

Process Evaluation and Interim Product Evaluation
Figure 1. Schematic Depicting the School Improvement Process

School Program Planning Goal and Objective Setting (Site-based Decision-Making Group)
Strategic and Operational Planning

School Improvement Plan

INPUT

Previous Evaluation Reports
Review of Literature
Action Research
Basic Research Information
Applied Research Information

Interpretation by Site-based Decision-making Group

Program/School Evaluation

Program Implementation within School

In-Course Adjustments

Determined by the Site-based Decision-making Group

Process Evaluation and Interim Product Evaluation

School Improvement or Effectiveness Indices, Other Summative Assessments
Figure 1. Schematic Depicting the School Improvement Process

School Program Planning Goal and Objective Setting (Site-based Decision-Making Group) 
Strategic and Operational Planning

INPUT

Previous Evaluation Reports 
Reviews of Literature 
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Applied Research Information

Interpretation by Site-based Decision-Making Group

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Program Implementation within School

School Improvement or Effectiveness Indicators, Other Summative Assessments

In-Course Adjustments

Process Evaluation and Interim Product Evaluation

Determined by the Site-based Decision-Making Group
Figure 1. Schematic Depicting the School Improvement Process

1. **Needs Assessment** → School Program Planning, Goal, and Objective Setting (Site-based Decision-Making Group) → Strategic and Operational Planning → School Improvement Plan

2. **Input**
   - Previous Evaluation Reports
   - Review of Literature
   - Action Research
   - Basic Research Information
   - Applied Research Information

3. **Interpretation by Site-based Decision-making Group** → Program/School Evaluation

4. **Program Implementation within School**
   - Program Evaluation
   - Summative Assessments
   - In-Course Adjustments

5. **Process Evaluation and Interim, Product Evaluation**

   School Improvement or Effectiveness Indicators, QES Summative Assessments

   Determined by the Site-based Decision-making Group
Figure 1. Schematic Depicting the School Improvement Process

NEEDS ASSESSMENT → School Program Planning Goal and Objective Setting (Site-based Decision-Making Group) → Strategic and Operational Planning → School Improvement Plan

INPUT

- Previous Evaluation Reports
- Reviews of Literature
- Action Research
- Basic Research Information
- Applied Research Substantiation

Interpretation by Site-based Decision-Making Group → Program/School Evaluation → Program Implementation within School

School Improvement or Effectiveness Indices, Other Summative Assessments

In-Course Adjustments → Determined by the Site-based Decision-Making Group

Process Evaluation and Interim, Product Evaluation
Figure 2. Schematic: Depicting the School Improvement Process

INPUT

Previous Evaluation Reports
Reviews of Literature
Action Research
Basic Research Information
Applied Research Information

Program/School Evaluation

Program Implementation within School

In-Course Adjustment

Process Evaluation and Interim Product Evaluation

Determined by the Site-based Decision-making Group

School Program Planning Goal and Objective Setting (Site-based Decision-making Group)
Strategic and Operational Planning

School Improvement Plan

Needs Assessment
Figure 2. Schematic Depicting the School Improvement Process

- **Needs Assessment**
- **School Program Planning Goal and Objective Setting** (Site-based Decision-Making Group)
- **Strategic and Operational Planning**
- **School Improvement Plan**

**INPUT**

- Previous Evaluation Reports
- Reviews of Literature
- Action Research

**Basic Research Information**

**Applied Research Information**

**Interpretation by Site-based Decision-making Group**

**Program/School Evaluation**

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**Process Evaluation and Interim Product Evaluation**

**In-Course Adjustments**

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Figure 2. Schematic Depicting the School Improvement Process
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School Program Planning Goal and Objective Setting
(Site-based Decision-Making Group)
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Interpretation by Site-based Decision-Making Group

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Process Evaluation and Interim Product Evaluation