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ABSTRACT

An overview of accountability in public education is presented in this publication. Contents include a review of recent accountability efforts, an outline of a comprehensive accountability model, an analysis of accountability strategies, and a discussion of means for incorporating system indicators into the larger systemic framework. A conclusion is that policymakers face a choice between a bureaucratic-legal and a professional-political strategy model. The former promotes adherence to rules and consistency, yet its focus on goal achievement hinders creativity. The latter's indirect control of the process renders it more vulnerable to inefficiency and misuse. Policymakers must address the accountability process as well as system indicators, examining the interactions among the responsibility of various educational actors, goals, resources, standards, and rewards/sanctions. A special insert includes the following articles: "Nevada's Annual Report Card," by Stanley Chow and Myrna Matranga; "New Accountablilty for Utah Schools," by Steven T. Bossert; "Accountability in Arizona," by Robert T. Stout; and "California's Role in School Accountability," by Mark Fetler. (5 references) (LMI)

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Accountability in Public Education

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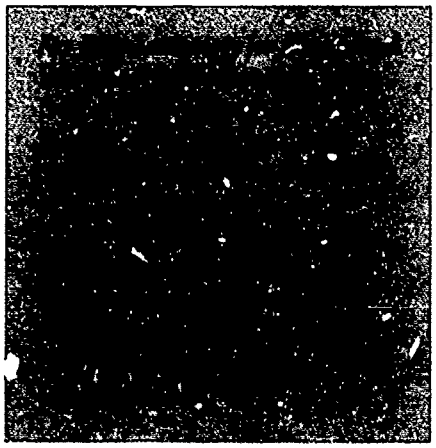
Introduction

As policymakers and the public have become more concerned with the quality of American public education, there has been an increased emphasis on the outcomes of education and holding educators accountable for those outcomes. Recent efforts focus on the development of accountability systems based on system indicators — collections of statistics that reflect how well the public education system is working. At least 40 states now require school districts to submit information that is then published in a system performance report or report card. Most of the legislation and research describing system indicators refer to them as accountability measures.

System indicators are only one element of an accountability process. To be genuinely effective, they must take into account the essential relationships among actors in the educational arena, the nature of work in education, and the specific responsibilities of all actors. Unless policymakers address the critical question of how system indicators are to be used, they will be an expensive and time consuming data collection process that is only tangentially related to accountability or school improvement.



The purpose of this policy brief is to step back from the technical discussions of developing system indicators to look more broadly at accountability in public education. The brief will review recent accountability efforts, outline a complete accountability model, analyze several strategies for developing accountability systems in public agencies like education, and discuss how system indicators might fit into this larger systemic framework.

Background

Accountability is not a new concept in education. Traditionally, policymakers and the public have been concerned with what children are taught, employing qualified personnel, and how much education costs. These traditional concerns took on new dimensions as control of schools shifted away from small neighborhood schools and local districts to larger consolidated districts needing to respond to increased state and federal intervention. Along with these, greater conflicts over the purpose and operation of public schools emerged which have eroded public faith in schools, trust in educators, and the perceived ability to effectively control the schools.

The increasing state and federal role in the regulation of public education accelerated during the 1960s at a time of raised expectations, both generally and more specifically from minority, immigrant, and disabled students. *The failure of schools to satisfy these new demands led to repeated calls for formal accountability mechanisms in education.* Over the past 25 years, as the educational policy arena has broadened, we have witnessed the federal struggle to ensure local compliance with national goals, states' attempts to provide more equal and adequate resources to all school districts, and states efforts to raise educational standards through minimum competency testing for both teachers and students. System indicators focusing on school and student performance are merely the latest in this series of accountability efforts.

With each of these efforts came new mechanisms for holding schools accountable for what they do reflecting a shift in emphasis from inputs (revenues, personnel, facilities, and other resources), and process (decision making, participation, and routinization), to outcomes (student achievement). *Historically, new regulations have been added to existing ones with each shift resulting in a more highly complex system of rules and regulations.*

The following list illustrates the variety of mechanisms used to regulate schools and hold educators accountable for their actions.

Inputs: Focus on adequacy and equity of school resources

a) curriculum guidelines

b) revenue controls such as tax limitations and minimum funding

c) teacher certification and testing

d) categorical funding for special populations

Process: Focus on inclusion, regularity, and program management

a) inclusion of non-administrators (teachers, parents, and community members) in school and student decision-making

b) required planning elements (setting goals and developing implementation plans) in funding regulations

c) legal due process requirements

Outcomes: Focus on results

a) minimum competency testing for students

b) standardized achievement tests

c) school and district report cards or performance reports

Accountability in public education remains a slippery concept. *Despite the elaborate system of rules and regulations produced by these various accountability mechanisms there is little belief that the outcomes of education are under anyone's control, yet.* Education, like other public agencies, is subject to multiple demands, multiple constituencies, and multiple control systems. The sheer complexity of the mission and the environment impose limits on our ability to hold public education accountable. In education, the normal complexity of a public agency, is compounded by the fact that we are trying to educate human beings with their different skills, interests, and resources instead of making robots or processing tax forms.

System Indicators and Accountability

System indicators are one very visible attempt to move beyond the rules and regulations regarding educational inputs and processes to focus more directly on outcomes. Despite their technical language, system indicators are nothing more than sets of statistics that reveal something about the condition of an educational system — a school, district, state, or nation. Indicators may cover a wide range of elements including revenues, qualifications of personnel, curriculum, dropout and graduation rates, and college attendance. Because inputs and process are believed to be related to outcomes, system indicators address all three components of the educational process.

The most useful system indicators, from a policy or accountability perspective, are linked to system performance. Changes made in this or that indicator will enhance system or student performance. Indicators of system performance are those input and process variables which are believed to be related to quality education and student learning. Such variables include teacher training and experience, attendance, courses or subjects offered and taken, student background characteristics, and scores on standardized achievement tests. There are many other statistics which educational administrators must collect, such as the age and condition of facilities and detailed accounting records of revenues and expenditures, which are important for addressing other policy concerns — but these should be included as system indicators only if they are directly related to outcomes in education.

The discussion of system indicators focuses on what variables should be included and how to develop reliable and efficient data collection systems. Some states such as California, Connecticut, New York, and South Carolina are in the forefront of indicator development, while others, such as Arizona, Nevada, and Maryland are just beginning the process. The data collection efforts for these system indicators are extensive and costly requiring schools and districts to monitor aspects of the system in new ways and to develop new measures of student achievement. At present, much of the data is incomplete, inaccurate, or unclearly related to student or system performance. And, several authors such as Kaagen and Cooley (1989) and Odden (1990) still stress the weakness and incompleteness of these data systems. It is presumed that policymakers at the state and district level will use the information to guide future educational policy.

However, for system indicators to operate effectively as an accountability instrument other aspects of the system must be more clearly defined. Monitoring performance is only one aspect of accountability. While work which further clarifies system indicators needs to continue, policymakers, especially in the more experienced states, need to address the function and uses of these data systems, as well.

Presently, the discussions surrounding system indicators as a form of accountability remain at a level of abstraction which permits indicators to have strong political appeal as a solution to current concerns over the quality of American education. The danger is that as more specific demands of accountability are placed on the schools, schools will be made even less effective by being forced to respond to conflicting or impossible demands. A more complete understanding of the key components of an effective accountability system can help prevent this from occurring.

Nevada's Annual Report Card

Stanley Chow and Myrna Matranga

Introduction

Nevada's policymakers are making firm commitments toward educational accountability. At the 1989 session, the Nevada Legislature passed Senate Bill No. 74 which directs local school boards to "adopt a program . . . for the accountability of the school district to the residents of the district." Under SB 74, school districts must adopt an accountability program by July, 1990 and distribute the first "report card" to residents, the State Superintendent and the 1991 Session of the Legislature by March, 1991. This report card will focus on "the quality of the schools and the educational achievement of the pupils."

Eight elements are included in the state's "report card":

1. The educational goals and objectives of the school district;
2. A comparison of pupil achievement at each age and grade level for the current year with that of previous school years;
3. The ratio of pupils to teachers at each grade level;
4. A comparison of teacher assignments with their qualification and licensure for these assignments;
5. The total expenditure per pupil for each source of funding;
6. The curriculum used by the school district, including special programs;
7. Attendance and advancement records and graduation rates;
8. Efforts to increase communication with parents.

Implementation Issues

Nevada educators are facing complicated implementation issues in making the "report card" available to the state's residents. The immediate implementation issue for the state's school districts is to collect the necessary information called for in SB 74 and present it in a form that is clear and understandable to residents. The task, for the most part, is not particularly taxing since much of the information required is already available and reported by the state department in its annual status report. Other data, such as per pupil cost by funding source, can be easily disaggregated from data in district files.

The more problematic element of compliance is the requirement on student achievement. The law states that each district must provide "a comparison of pupil achievement at each age and grade level for the current year with that of previous school years." The difficulty here is that none of the school districts, including the largest and most resource-rich Clark County School District, has comparable student achievement data at every grade and every year. The current statewide testing program requires a high school proficiency test for 11th graders, the ACT and SAT for college-bound seniors, and the CTBS which is administered in grades 3, 6, and 9 for Math, Reading, and Writing. Other indicators of student achievement, such as results from criterion-referenced tests, are only used in a few of the districts in the elementary grades, leaving several grades untested. For the first report card, school districts need to explain why student achievement data is not available for these grades.

Another implementation problem is how to compare student achievement over time. While Nevada has been using the high school proficiency test and the ACT and SAT for quite some time now, and can provide trend data, it is more difficult to do so for the CTBS since the test was first given in the fall of 1989. Prior to 1989, the Stanford Achievement Test was used for grades 3 and 6 and the Survey of Basic Skills was used in grade 9. Comparability of scores between different tests is a problem from a technical point of view. Making these comparisons meaningful to the lay public is doubly difficult.

Report Card Preparation

To assist districts with preparing the "report card," a committee was formed in July, 1989. This statewide committee consists of representatives from school districts, the teachers' association, the administrators' association, the state department, and an outside consultant from Far West Laboratory.

By December, 1989, the committee developed operational definitions for each of the eight elements in the report card and offered them as recommendations for district adoption with the intent of reducing duplication of effort and enhancing comparability of reported data across districts. At this particular time, feedback from the state's superintendents has been positive. However, it is too early to tell if the recommendations from the SB 74 Committee will in fact be incorporated into individual district report cards. SB 74 plans to be submitted by school districts in July, 1990 will be telling; the final report cards which districts are required to distribute to the public and to the legislature in March, 1991 will be the ultimate testimonial of the work of the committee.

Policy Implications and Other Educational Legislation

While the immediate implementation issue is the "report card," a long-range issue has to do with programmatic responses to demands for accountability which underlie the report card. In this regard, the law clearly establishes the local school districts and their governing boards as responsible for educating students in the state. Insiders believe that requiring a report card on educational progress and accomplishments is only one aspect of the larger legislative agenda to make schools more accountable.

This larger legislative agenda can also be seen in other educational legislation. It was not entirely a coincidence that during the same 1989 session, Nevada lawmakers also passed the Class Size Reduction Act. The act requires that schools reduce class size to a ratio of 15 students to one teacher beginning with the fall 1990 school year. Allocations for the Class Size Reduction Act is $16.5 million. With this magnitude of investment in education, it is reasonable to expect that legislators and the public will soon be asking for an appropriate return of investment, that is, what has reduced class size done to improve student learning?

More than ever, legislative support for education appears to be tied to educational productivity. In order to convince state policymakers to continue to invest in education, schools need to show results which are clear and understandable as well as psychometrically valid. The annual report card gives the districts the opportunity to do so.

As the 1991 legislative session approaches, and as school districts file plans with the State Department of Education in compliance with SB 74, no one can predict with certainty how the report cards will be received by the legislature and what will be the legislative effects, but Nevada educators are sure of one thing, that is, accountability isn't going away any time soon.

Stanley Chow is the Director, Center for School Improvement and Policy Support, Far West Laboratory.

Myrna Matranga is the Senior Director, Curriculum and Instruction for Washoe County School District.

Several Other Relevant* Policy Briefs *available through Far West Laboratory:

"Redefining Teacher Work Roles: Prospects and Possibilities," by Julia E. Koppich, Patricia Brown, and Mary Amsler, *Policy Brief* No. 13.

"How Changing Class Size Affects Classrooms and Students," by Douglas E. Mitchell and Sara Ann Beach, *Policy Brief* No. 12.

"Raising Young Children While Working: The American Family in Crisis," by J. Ronald Lally and Mary Amsler, *Policy Brief* No. 11.

"Student Assessment Programs in the West," by Douglas Mitchell and Daniel Zalles, *Policy Brief* No. 4.

"Staff Development for Teachers," by Robert T. Stout, *Policy Brief* No. 7.

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New Accountability for Utah Schools

Steven T. Bossert

During the 1990 legislative session, lawmakers passed three bills that substantially changed the nature of educational accountability in Utah. Under the new laws:

- The State Office of Education must establish a statewide, norm-referenced testing program for grades 5, 8, and 11 and all schools must participate in the 1992 National Assessment of Educational Programs (NAEP).
- The State Superintendent must furnish a yearly, comprehensive statement of state funds allocated to each district and report school-by-school achievement information.
- Every school district also must publish an annual performance report and statement of expenditures.

The ardent push for statewide accountability in education began over a year ago. In his 1988 State of the State address, Governor Norman Bangeter called for each school and district in Utah to issue a "school report card." He saw school report cards as a vehicle for informing the public about educational successes, saying that Utah schools' productivity was one of the best kept secrets in the State. In a letter to each of the forty district superintendents, the Governor urged the districts to report a variety of information, including attendance, promotion rates, pupil-teacher ratios, dropout rates, graduation rates, and scores on norm-referenced tests. He admonished educators about their reluctance to publish test scores, writing that:

> [d]isregarding standardized tests because they fail to tell us everything about educational progress is like disregarding a blood test because it fails to tell us everything about a person's state of health. It is equally senseless to ignore tests simply because they may be imperfect. No test is perfect, but many are useful.

The Governor's charge reflected the feelings of many legislators and citizens who want to make Utah schools more accountable. Despite the rhetoric about reporting successes, discussions in legislative interim education committee meetings are often focused on issues of efficiency. Are taxpayers really "getting the most" out of the money they invest in Utah schools? In a year when the Utah legislature passed a record budget for education, tighter accountability was seen as the way to make educators prove that they were using State monies wisely.

Accountability Legislation

All three accountability laws were offered to the 1990 legislature by Representatives Richard J. Bradford and Douglas J. Holmes. Each passed the legislature with substantial support.

School District Accountability. H.B. 158, School District Accountability, alters the content of the Annual Report issued by the State Superintendent of Public Instruction. It requires "a complete statement of state funds allocated to each of the state's 40 school districts by source, including supplemental appropriations, and a complete statement of expenditures by each district." The report must also summarize new data from standardized norm-referenced tests (added in H.B. 321), listing scores for each school and district. The bill directs the State Superintendent to present the annual report to the Legislature as well as to the Governor.

School District Performance Reports. H.B. 170, School District Performance Reports, requires each school district to develop a performance report "providing for accountability of the district to its residents for the quality of schools and the educational achievement of students." The bill specifies 18 items for these reports, including norm-referenced achievement data, ACT scores, fiscal information, attendance and dropout rates, course-taking patterns in the high schools, professional data on teachers, and demographic figures on students. Most of this bill's content mirrored a District Performance Reports model adopted by the Utah State Board of Education in January, 1990. A committee had already prepared a handbook for school district performance reporting, based on the successful format developed by the Jordan School District (*Windows Annual Report*). School districts already have or are developing district-level performance reports. The bill adds the requirement that school-by-school achievement test results are to be published.

Achievement Tests in Public Schools. Finally, the third and most controversial of the accountability bills, Achievement Tests in the Public Schools (H.G. 321), makes sweeping changes in statewide testing. The new testing program supplants a 15-year state assessment program that included measures of a wide range of student outcomes (using a stratified random sample of schools) and a quality indicators program. The law requires the Utah State Office of Education (USOE) to purchase, score, and report the results of statewide, norm-referenced achievement tests for grades 5, 8, and 11, beginning in the 1990-91 school year. Participation in the 1992 NAEP is also mandated, although the legislature did not provide funding for this effort. Implementing this law may seriously delay efforts to develop additional criterion-referenced tests that assess the state's core curriculum.

The "legislative intent" behind H.B. 321 is clear. The bill's preamble notes that statewide testing will provide the public with "evaluative information" for planning and fund-

ing. The data may be used "to reallocate educational resources in a manner to assure educational opportunities for all students." It also specifies how the test should be administered and how educators who breach testing procedures should be sanctioned.

Implementation Issues

Implementation of the three bills hinges on establishing a new statewide testing program. Currently, a state testing committee, comprised of USOE and school district staff, is devising procedures and a request for proposals from test makers. Although H.B. 321 authorized the USOE to develop its own achievement tests, officials expect to purchase a standardized test that meets certain criteria. The committee is considering guidelines that specify both the content and administration of the test. For example, the testing data sparks considerable debate. Some educators believe that Spring testing creates a "high stakes" environment that may foster increased stress and inappropriate administration of the test. Fall testing does not conflict with other testing and it can serve as a useful diagnostic for instruction. Yet, Spring testing would reflect the result of instruction during the year as well as the effort of teachers who actually report test scores to the parents.

Another unresolved issue concerns reporting the results of achievement tests on a school-by-school basis. All three laws emphasize norm-referenced testing and suggest that test scores could be used to reallocate resources. Unfortunately, the temptation to tie funding to test performance may engender unfair comparisons among schools. Test scores alone cannot be used to judge which schools are successful or unsuccessful. Even by accounting for differences in the school's student population (using statistical regression techniques), test data give biased and unreliable portraits of school effectiveness.[1] Utah educators, lawmakers, and the public will need to be aware of the limitations of norm-referenced test information as new test results are published and policy recommendations are formulated.

Educators also need to anticipate the increased demand on their time and expertise. Additional information will need to be collected. Extra inservice sessions on the administration and reporting of information from the new tests will occur. The general public will need to learn how to make sense of the new tests and other information that will be presented in district performance reports. Moreover, comparative assessments, and performance rewards that follow, may create an even "higher stakes" environment surrounding state testing. The added stress on teachers and administrators could increase burnout and problems with test security.

Perhaps one unanticipated consequence of implementing statewide, norm-referenced testing is that Utah school districts will not have to purchase new standardized tests. Many districts are using outdated test versions and have considered buying new tests. The state program will eliminate this expenditure, while offering each district a new test series and staff training at the State's expense.

Concern with Standards

Numerous professional associations and the federal government have recommended certain features that should be included in performance accountability systems. How do Utah's new testing and reporting laws compare with standards set for state accountability?

Utah's laws do reflect some of the guidelines associated with sound accountability systems.[2] The laws seem compatible with the general goals for schooling in Utah. The Utah State Board of Education's new planning document, *Shift in Focus*, calls for increased educational accountability based on measurable performance indicators. Multiple indicators are included as part of school district performance reporting (especially in H.B. 170). School- and district-level accountability reports will be public. School districts will be able to use test data for their own evaluations. Reporting requirements seem to offer enough latitude for school districts to tailor their reports to specific audiences.

However, two important aspects are missing. First, the list of indicators offered by the three bills is disjointed. In developing the bills, legislators seemed more concerned with mandating a testing and reporting procedure than with articulating an overall vision of how the educational system should be functioning. Therefore, the bills do not consider several important features of indicator systems: the development of indicators that assess the quality of instruction and teachers, how accountability data should be used to improve low-performing schools, and how performance data can be used to sustain high-performing schools. These issues will need to be elaborated as performance reporting moves into the policy arena.

Second, the laws did not establish an independent oversight body to monitor the development and implementation of the performance accountability system. Because indicator systems and performance reporting are still rather primitive, they need careful evaluation. Educators and policymakers should be involved in a formal effort to assess the unanticipated consequences of Utah's new accountability laws.

Endnotes

1. See Brian Rowan's chapter, "The Assessment of School Effectiveness," in *Reaching for Excellence: An Effective Schools Sourcebook* (Regina Kyle, Editor; National Institute of Education, Washington, D.C., May, 1985).

2. See "Creating Responsible and Responsive Accountability Systems: Report of the OERI State Accountability Study Group" (Washington, D.C.: U.S. Department of Education, 198???).

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Accountability in Arizona

Robert T. Stout

Arizona's political heritage rests on Western populism, and since 1940 or so, combined with a general conservatism. The result has been to stress small government, self-reliance, the free enterprise system, local control, and, in the past, to relatively circumscribed activities by state-level agencies.

Prior to 1970, the Arizona Department of Education (ADOE) had little role in the overall development of education in Arizona, being restricted mostly to monitoring of ESEA programs and funds, vocational education funding, some technical assistance, and general accounting.

However, beginning in the mid-1970s, Arizona's state-level capacity for program development began to change, and the first serious press for accountability surfaced. The press came from increasingly activist legislators, state business leaders, the Chief State School Officer, and, later, the Governor.

Today, Arizona's accountability policy comes primarily from the legislature and the ADOE, often working independently, but increasingly, working cooperatively. These two groups press for accountability in three major areas of policy: 1) finance, 2) program standards, and 3) personnel will be described.

Finance

Two major financial accountability policies have been emerging: tighter accounting controls and increased control over total expenditures. In response to increased federal aid (ESEA predominantly) and in growing recognition of high degrees of variability in local capacity for fund accounting, the ADOE established a Uniform System for Financial Records (USFR). This system is designed to regularize fund identification and accounting, and requires local school districts to submit to periodic audits by the Office of Auditor General. As a result of USFR, two consequences became apparent; some criminal mismanagement of local funds was uncovered as was a fairly high level of unintentional mismanagement. Since the early 1980s, evidence of unacceptable fund accounting has diminished rapidly.

In response to a threatened constitutional amendment to hold down school costs, projections of rapidly increasing property taxes, and in response to generalized concerns about funding equity across school districts, the Arizona legislature passed a massive school finance reform bill in 1980. The bill established revenue and expenditure caps, shifted funding away from local option to state control, tied increases in school expenditures to cost of living indices, established differential funding for children with various forms of needs, and, in general, reduced local discretion for school funding. In the intervening decade, the basic forms has have held, although adjustments have been made. Since 1988, a number of key actors have been debating the necessity to revisit the basic assumptions of the 1980 legislation with a view to thinking again about how to provide equitable funding for schools in as diverse a state as Arizona.

Program Standards

Accountability in program standards is a keen interest of state policymakers. Under the general policy of establishing agreed upon standards of performance, districts are encouraged and required to ensure higher levels of student achievement.

Beginning in the mid-1970s, the ADOE began to develop sets of statewide program standards of essential skills for subjects at all grade levels. These standards were made available to all school districts in the form of "wall charts" which specified minimum skills in multiple areas at each grade level. While school districts were not required to adopt these, they were encouraged to do so. Coincidentally, school districts were required to develop and implement a Continuous, Uniform Evaluation System (CUES) in order to ascertain whether students were meeting district achievement standards, primarily on criterion-referenced tests. The expectation was that the essential skills, as developed by the ADOE, would provide the basis for most evaluation activity under CUES. Although no clear evidence exists about the degree to which this has occurred, anecdotal evidence supports an argument that the essential skills documents were adopted widely.

Growing impatient with their inability to determine the level of quality of education in Arizona, legislators, in the late 1970s, legislated a massive statewide testing program. All children in all grades were to be given yearly national norm-referenced standardized achievement tests in all the basic subjects. Results were to be aggregated and reported to the public by district and by schools within districts. Contracts for test construction, scoring, and reporting have been awarded to various testing companies. However, since inception, the concept has been criticized routinely for its high cost, its irrelevance to program improvement, its irrelevance as a policy guiding tool, and for its reaffirmation of the obvious, children from more well off families tend do better on the tests than do children of poverty.

Since about 1987, the ADOE has been cooperating with key figures in the state legislature to develop an alternative, and presumably more useful, testing policy called the Arizona Student Assessment Program (ASAP). The emerging policy appears to rely much more on tests which allow students to demonstrate achievement in different ways. Scheduled for implementation in 1990 or 1991, the basic design is to allow students to demonstrate their levels of achievement in settings which are more like those of the settings in which instruction took place. Some students in some grades would continue to be required to take national norm-referenced tests, but these data would be used more for purposes of validation rather than for assessment of state educational quality.

This shift in testing policy parallels a shift in program improvement strategy. The original emphasis on essential skills has been supplemented by legislative adoption of Goals for Educational Excellence, under the general oversight of a Joint Committee on Goals for Educational Excellence.

In February, 1989, Senator Steiner (chair, Senate Education Committee) and

Representative Hermon (chair, House Education Committee) issued an Action Agenda For Educational Excellence in Arizona. The introduction to the document stated,

"Arizona's educators, business leaders, and parents recognize that the key to Arizona's future economic prosperity and quality of life is the development of the best possible system of public education. They also recognize that fail-ure to prepare our students to compete in a demanding worldwide economy will have dire consequences for Arizona's businesses, government, and citizenry."

The Action Agenda proposed a set of guiding principles, which included:

- **Equity**: financial equity and equal access
- **Accountability**: a system of standards and evaluation
- **Efficiency**: cost-effective use of tax funds
- **Sufficiency**: an appropriate level of funding to meet educational goals
- **Balance**: between the value of local control and the need for statewide standards.

Other parts of the overall agenda are under development. Each is tied to the general statement of goals, and to what is thought to be a tighter connection between adopted goals and testing for student achievement. Examples are.

- The Arizona State Board of Education adopted increased course requirements for high school graduation.
- The Arizona Board of Regents independently raised requirements for entrance into the public universities of the State.
- Debate continues over raising the legal school leaving age from age 16 to something higher, or graduation from high school or both.
- Arizona is experimenting with a state process of auditing the quality of schools.
- A parental choice bill has been heard in the last two legislative sessions, although without passage as of this writing.
- A bill which would establish pilot school restructuring efforts is before the 1990 Arizona Legislature (HB 2262).

Personnel Issues

Teacher quality and accountability have received substantial policy attention in the past 20 years. The overall strategy has had three tactical components: raising entry standards, tightening evaluation standards, and enriching applicant pool.

Raising Entry Standards. Raising standards for entry into teaching has focused on raising standards for admission into the colleges of education for persons preparing to become teachers. Qualifying grade-point averages have been raised, and a pre-admission basic skills test administered by the ADOE must be passed. Policymakers insist that prospective teachers receive more rigorous preparation in academic subjects and that they pass an examination in teaching pedagogy prior to certification. Experimentally, some new teachers are required to serve as interns for two years, during which time their performance is closely monitored by teams of assessors.

Tightening Evaluation Standards. Every probationary teacher is to be evaluated at least two times each year by a person designated by the local school board as a qualified evaluator. Evaluation is to be based on a statistically sound evaluation instrument, developed in cooperation with the teaching staffs. Notice of insufficient performance is to be followed by specific opportunities to improve and a subsequent performance evaluation. Continuing teachers (the term "tenure" was struck from Arizona legislation in 1986) are to be evaluated at least once each year under the same general guidelines.

Enriching Applicant Pool. Deepening the pool of really talented teachers has been done in two ways: The first is to loosen the formal certification requirements for teachers prepared to teach in science and mathematics. The hope is that persons with strong science and math backgrounds, but little or no experience in traditional teacher education programs, will be drawn into teaching. The second way is to implement a pilot career ladder program. This program allows exceptionally talented and effective teachers in selected pilot school districts to receive substantially higher salaries while continuing to teach, rather than leaving teaching for other careers. Evidence of effectiveness must include some measures of student achievement.

Summary and Future Directions

Accountability continues to be a high priority in educational policy for Arizonans. A gradual shift from local control to state control has occurred as Arizona policymakers have expressed their collective dissatisfaction with the quality of education. Controls have been implemented in school finance and local options have been decreased as the state has assumed a greater share of the total funding responsibility.

Program standards have been tightened and it appears that a consensus has been achieved about desired performance outcomes. These are expected to influence curricula and to determine the shape of new forms of student assessment. However, policymakers continue to be dissatisfied with the general level of student achievement, and with the academic skills of entry level workers in particular. Increasing concern is being expressed about "at risk" youth and some efforts are under way to address these issues. A highly speculative prediction is that Arizona policy will move slowly for the next two years or so, but that program standards will continue to be of interest.

Personnel quality has been of concern, with emphasis on increased quality of preparation and on retaining highly talented teachers. The quality of preparation continues to be questioned and we may see another round of activity in this policy arena. If the school restructuring effort gets started, we are likely to see increased concern for staff development which addresses such matters as teacher leadership or empowerment. School district policymakers have not yet demonstrated to state policymakers that additional funding is necessary or that it will be spent in ways which will increase dramatically the quality of student achievement. In that context, we can expect to see continued, increased state level intervention.

Robert T. Stout is Professor of Education, Arizona State University.

California's Role in School Accountability

Mark Fetler

Numerous state and local reports published in the early 1980s on the condition of education in the United States portrayed a school system in crisis. The response was a nationwide reform movement, initiated in California with 1983 passage of SB 813, the Hughes-Hart Education Reform Act. The bill involved over 60 separate reforms and new funding — but no provisions for accountability.

As schools began implementing the reforms, educators and legislators alike recognized the need to measure results. What effects had the legislation had? Were funds being expended wisely? How could local schools and districts be encouraged to persevere in making the reforms work? Answers to such questions would not only help sustain reforms, but would bolster arguments for more spending on schools. California's tax reform measures in the 1970s cut property taxes in half, severely limiting the revenues of state and local governments and centralizing school finance at the state level. Constant dollars for schools declined. Student enrollments simultaneously increased due to a baby boomlet and a wave of immigration. And increased linguistic diversity and larger numbers of disadvantaged students imposed additional financial burdens.

So, prompted by both reform and funding needs, states developed an array of school accountability programs in the 1980s. These included the Performance Report for California Schools; the California School Recognition Program; accountability measures that respond to federal reforms of Chapter 1 programs; School Accountability Report Cards required by a successful 1988 statewide ballot intiative; and a move toward authentic, performance-based student assessment.

School Performance Reports

California first implemented an integrated school accountability program in 1983. It allows educators to determine the success of their own school programs, sustain support for reform by demonstrating such success, recognize schools for their progress and achievements, and discover the most effective ways to use educational resources. Under the program, the State Department of Education (SDE) annually produces a quality indicator report for the state as a whole and one for each school district. Each school is then sent a discussion of the accountablity program, an explanation of performance indicators, statewide results and goals, and a display of the indicators for that particular school. The report not only allows the school to see its own trends over time, but also how it ranks relative to all other schools in the state and — importantly — to other demographically similar schools.

Reports for high schools contain information on academic course enrollments, attendance and dropouts, along with results of California Assessment Program (CAP) achievement tests, Scholastic Aptitude Tests, and the American College Testing program. Much of the information is presented by sex and ethnic classification. Reports for elementary and intermediate schools contain achievement and attendance information.

Both school district and county offices receive copies of reports on all schools under their jurisdiction. The local districts have about two weeks to examine the reports before they are released to the media. The state also encourages all districts to augment state data by producing their own self-reports based on local quality indicators.

School Recognition Program

One use of the school performance reports is to screen schools for the California School Recognition Program. Every year at a special awards ceremony, five to ten percent of schools are honored under this program which is intended to reward achievement, motivate other schools to strive for excellence, increase local awareness of school efforts, and provide models of successful practices. An initial quantitative screening identifies schools that perform well relative to other comparable schools or show unusual improvement on the various quality indicators. Selected schools are then invited to fill out applications describing curriculum, instructional practices, improvement efforts, school culture, and student outcomes.

Accountability for Chapter 1 Programs

The federal re-authorization of Chapter 1 (Hawkins/Stafford Elementary and Secondary School Improvement Amendments of 1988) contained specific provisions for school accountability. Accordingly, California's State Plan for Chapter 1 includes objective measures and standards to assess student performance, the process to be followed by the State Department of Education (SDE) and local district in jointly developing program improvement plans, a timetable for developing and implementing such plans, and a program outlining the kinds of assistance to be provided to identified schools.

Districts annually identify schools by using criteria set forth in the State Plan. To help, the SDE compiles nonbinding advice in the form of a Summary Report of both the criterion-referenced CAP scores and norm-referenced test results. CAP data are provided for the subgroup of students receiving Chapter 1 services. The statewide targets for improvement on CAP test scores, (established in the School Performance Reports) are the standard for judging whether students made substantial progress toward success in the regular curriculum. A positive change in measured achievement on norm referenced test results from a pretest to a post-test was adopted as the standard for judging whether the program was effective.

Proposition 98 School Accountability Report Cards

The California Constitution once limited the amount of tax money that government — including local school districts — could spend. Any excess was returned to voters. Proposition 98, passed in 1988, altered this spending limit by specifying a minimum level of funding for public schools. The minimum funding level is set either at the 1986-87 level or at the prior year level, whichever is larger. In addition, any excess revenues go to the schools, thus permanently increasing the minimum funding level. Schools must use the additional funds for instructional improvement and accountability.

The new law also requires the Superintendent of Public Instruction to develop a Model School Accountability Report Card, which contains information on 13 school conditions. Some of these are:

- student progress toward meeting reading, writing, arithmetic, and other academic goals
- progress towards reducing dropout rates
- estimated expenditures per student and types of services funded
- progress toward reducing class sizes and teaching loads
- quality and currency of textbooks and other instructional materials
- availability of qualified personnel to provide student support services
- adequacy of school facilities
- adequacy of teacher evaluations and professional improvement opportunities
- classroom discipline and climate for learning
- curriculum improvement programs
- quality of school instruction and leadership

School boards then must issue an annual School Accountability Report Card for each school, addressing all 13 conditions. Local boards are not required to adopt the state model, but must compare their document with the state's at least once every three years. In 1989, the legislature mandated that the report cards also compare district salaries (for teachers, principals, and superintendents) and percentage of budget allocated for teacher and administrative personnel against statewide averages.

New Directions in Assessment

An effective accountability system must provide information to teachers, parents, and the public about strengths and weaknesses in student performance. The California Assessment Program currently tests all public school students at grades 3, 6, 8, and 12. CAP, however, is not a tool for assessing individual performance but rather evaluates the school's overall instructional program. The most significant development in individual student assessment is the movement away from multiple choice testing toward more authentic, performance-based ways of measuring learning. Although multiple choice testing can be efficient and economical, it focuses attention on discrete, out-of-context bits of information that do not reflect the development or use of complex skills in real-life situations. Authentic, performance based assessment — such as the direct writing assessments already used in grades 8 and 12 — allows students to show what they can actually do. It supports instruction related to the development of such complex abilities as communication in speech or writing, persuasive argument, and problem solving. It provides valuable staff development when teachers are involved in constructing the assessments and scoring results.

Efforts are underway to develop authentic assessment pilot programs in mathematics, history, and science. Given the labor intensive nature of authentic assessment, the emphasis for now is on the sampling of a few students in all schools.

Other changes in assessment practice since 1983 include the development of new tests for grades 8 and 12 (such as the writing assessment mentioned above) geared to reflect recent curriculum reforms. Moreover, CAP administers the Golden State Examination, a voluntary, end-of-course test providing schools that choose to participate with an incentive for achievement in college preparatory subject areas — mathematics so far, but soon including history, economics, biology, and chemistry. Pilot efforts have also been initiated by research organizations, test publishers, and a consortium of schools to consolidate testing for local and state reporting.

Conclusion

California's schools continue to face major challenges. School enrollments are increasing rapidly. "Minority" students are now the majority, and increasing numbers have limited English proficiency. Though the gap in performance between disadvantaged students and others has narrowed, it remains troublesome. As schools strive to meet these challenges, accountability measures function both as tools for managing improvement and as political symbols for communicating leadership.

The Performance Report for California Schools conveys information to local schools and districts on their performance. The California School Recognition Program helps to reinforce the message of the performance reports. The Chapter 1 Summary Reports illustrate one way in which federal and state accountability programs can be coordinated to strengthen school reforms. Proposition 98 provides schools with a stable source of revenue and requires that the public receive a report card on each school's performance. The development of authentic, performance-based student assessment reflects improved coordination between assessment, curriculum, and instruction.

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A Framework for Public Accountability

Although accountability is a much used term, and demands for public accountability are frequent and loud, it is an under-developed concept. In its simplest and most frequently used form, *accountability means holding someone responsible for his/her actions.* People or agencies are held accountable if they are "answerable" for their conduct.

Holding an individual or an organization accountable for their actions on an ongoing basis requires a fairly complete definition of the accountability relationship including *who is responsible to whom for what.* What follows are some but not all of the components of an accountability loop:

1) **Key Actors.** Who is holding whom responsible? In education, potential actors include teachers, principals, administrators, superintendents, parents, board members, and legislators.

2) **Goals.** What is supposed to be accomplished? Goals might focus on increased graduation requirements, higher test scores, increased problem solving skills, higher attendance, etc.

3) **Resources.** Does the person or the agency have access to necessary resources and control over key components? Educators need a variety of materials, supplies, personnel and community resources, and decisionmaking authority to be effective.

4) **Pre-determined Standards.** How will we know if the goals are met? Policymakers and educators need to specify targets or objectives for action on a short-term basis.

5) **Rewards/sanctions.** What is the controlling actor's response to success or failure? Are successes openly rewarded and failures openly sanctioned? Policymakers have a fairly broad repertoire of possible responses including promotion, salary increases, increased responsibility, loss of control, further training, reprimand, probation, or termination.

An effective accountability system should address each of these components. *If all the proper components are not addressed, gaps can result; accountability becomes unfair or ineffective.* For example, holding someone responsible for an activity which is largely controlled by someone else is unfair. Failure to develop standards by which goals can be measured makes it difficult to know whether or not someone is doing his job. Failure to develop a response to satisfactory or unsatisfactory performance leaves the accountability loop open and ineffective at ensuring that goals are met.

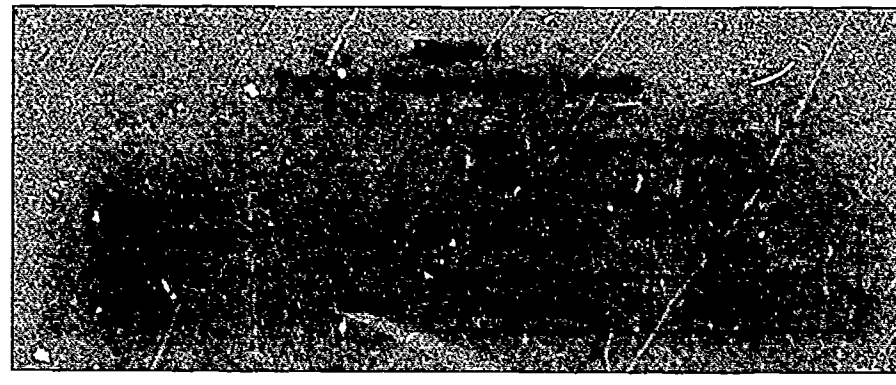
Public Accountability Strategies

The necessary components to a complete accountability system have been integrated into a framework for understanding various strategies for achieving public accountability by Romzek and Dubnick (1987). They describe four accountability strategies: bureaucratic, legal, professional, and political. *A major task when developing an accountability mechanism is to create the best match between the strategy and the situation.* These strategies address the complexity of controls faced by public institutions like education.

Each of these four strategies answers the questions of accountability differently and can be characterized along two major dimensions — locus of control and degree of control. Bureaucratic and professional strategies are internal organizational control mechanisms, while political and legal strategies are external control mechanisms. The bureaucratic and legal strategies are most appropriate when there is a high degree of control of the subordinate agency. The professional and political strategies are most appropriate when there is a low degree of control. (See Figure 1)

Bureaucratic. A bureaucratic strategy focuses attention on the priorities of those at the top of the bureaucratic hierarchy. It assumes an authoritative relationship between a superior and a subordinate and close supervision or a surrogate system of rules. A bureaucratic strategy is most appropriate when there is a high degree of control between the supervisor and the subordinate and the nature of the activity is fairly routinized and predictable. School districts have tended to create bureaucratic accountability mechanisms between administrators and employees in areas such as office management, janitorial services, food operations, purchasing, and program requirements.

Legal. A legal accountability strategy is similar to the bureaucratic model, but is based on a fundamen-



tally different relationship between the actors. Legal accountability assumes that the controlling actor or agency is outside the agency and has the authority to impose contractual sanctions on the agency being controlled. This relationship depends on a process of rewards or punishments to induce compliance. State imposed financial regulations for operating school districts with their detailed procedures, routinized reporting systems, clear rules, and pre-set consequences are apt examples.

Professional. Professional accountability is more appropriately used by school districts in areas which are highly technical or complex and where the subordinate is expected to use a high level of individual judgement to make complex decisions. In this situation, the supervisor, a member of the same agency, relies heavily on the skill and expertise of the employee to further the agency's goals. If the employee fails to further the agency's goals, he may be subject to reprimands, more training, or firing. Professional accountability mechanisms work most effectively when there are a clear set of outcomes by which employees are evaluated with periodic evaluation of progress toward those outcomes. Within most school districts there are elements of a professional accountability system for teachers and principals; however, they are usually undercut by a focus on adherence to rules rather than furtherance of the school's goals. Sanctions are unevenly applied and more often take the form of a transfer than increased training or firing. Rewards are limited to recognition of a few very special teachers and principals each year. Complicating the use of more elaborate reward structures is the resistance of teachers to a differentiated structure of salary and responsibility.

Political. A political strategy is an external accountability mechanism. Actors outside the agency attempt to impose control on the actions of the agency or its employees. In a political situation, the rewards and punishments are uncertain and subject to the vagaries of the political system. Typically, representatives are responsible to their constituents, as are school district governing board members and state superintendents of education. They are held accountable through public elections and public opinion. For a public administrator — a superintendent or principal — a political relationship exists with many groups which may demand responsiveness. Different constituencies may not be directly responsible for their employment, but they can make political demands and possess political clout. Political situations are uncertain and unpredictable making adherence to detailed expectations difficult. However, a determined group can use the political process to impose its demands and expectations on the agency. Success depends upon the group's cohesiveness and ability to mobilize support.

Understanding the parameters and limits of each of these accountability strategies will assist educational policymakers in their development of effective accountability systems. Depending upon the situation — the relationship between the actors, the degree of control, the nature of the activity, and the availability of sanctions — policymakers might want to choose one strategy over another and develop the components of the strategy differently.

Selecting the Appropriate Accountability Strategy

Educational policymakers can use these four strategies to develop more effective accountability systems. All are legitimate strategies and all offer useful lenses for analyzing or developing accountability systems. System indicators can be incorporated into any of the four strategies depending upon who conducts the monitoring, the degree of control involved, and beliefs about the nature of the work being regulated.

It is important, however, that policymakers realize that at each level — external and internal — there are only two strategies. Because state policymakers do not have direct control of public education services they are limited to the external strategies — political and legal. Local school districts, which do have direct control over educational services and personnel, may choose bureaucratic or professional strategies. The legal and bureaucratic strategies reflect a belief that the educational process can be routinized, whereas, the professional and political strategies depend on motivation and goal-oriented behavior.

In large complex organizations like public education, multiple accountability strategies are needed to hold the whole system accountable. Policymakers need to think, not in terms of one accountability strategy or mechanism, but in terms of an accountability system in which several accountability strategies are used to monitor different functions and different parts of the educational process. State indicator systems might monitor broad system performance goals, while local monitoring systems might focus on more specific program and intermediate goals. For a system to be held fully accountable, these mechanisms must also be integrated with each other so that all aspects of the institution are under control and operating under a consistent set of expectations. Accountability systems which monitor system and student performance need to be coordinated with other monitoring systems for instruction, curriculum, and personnel. Without this coordination, schools will be held accountable to splintered and conflicting demands.

The Legal Strategy. From the external perspective, state policymakers might choose to develop a focused legal accountability strategy. An effective legal strategy to improve the outcomes of education using system indicators requires state policymakers to define: 1) who they expect to react to the information provided by system indicators — the state legislature, local school boards, superintendents, or school leaders, 2) how they are expected to react —

developing plans, implementing state plans, working with other community agencies, 3) what they are expected to accomplish — increases in student performance, increased access to services, changes in curriculum and program, and 4) how they will be rewarded. States can develop an array of rewards/sanctions including symbolic or financial awards, technical assistance strategies, or negative sanctions such as unemployment or loss of control. Developing a full accountability loop using a legal strategy can greatly increase the state role and has the potential for creating immediate change in specific, well-targeted areas.

The Political Strategy. An apparent strategy imbedded in most state indicator systems and local report cards is that they will be used to guide future policy. This is a political strategy in which the states use the development of information to motivate school district governing boards, state superintendents of education, other educators, and the public to pursue and demand school improvement. However, who the intended targets are is unclear — apparently anyone who will react. So far, it seems that this strategy works best on discrete measures, such as improving attendance and dropout rates where public and professional attention is focused by publishing district or school results. Similarly, many districts and schools have focused a lot of attention on directly preparing students for standardized tests. What this strategy has not yet done is encourage many schools or districts to take a broad response to the indicators and generate an overall school improvement effort — one that re-analyzes the function and design of the educational system.

A political strategy can be very potent. The publication of data evaluating the quality of public education and whether or not things are getting better or worse can shape the political environment of the schools in many ways. State and public support for increased funding might be affected. Local citizens can force a management change, recall board members, and promote bottom-up demands for accountability. However, the state has little control of either school district or public response to this system. It is essentially a persuasive or motivational strategy which encourages local districts to improve by highlighting their strengths and weaknesses, but the rewards accompanying a local response are vague and uncertain in most cases.

The Professional Strategy. The professional strategy recognizes teachers and administrators as professionals with a broad range of expertise. Under a professional accountability system they would be given a broad range of responsibility for curriculum, school management, activities, and programs with only limited guidance. However, districts would need to set very clear expectations for the outcomes of schooling and develop an evaluation system which monitors progress towards those outcomes. Unfortunately, administrators and teachers are more frequently evaluated by whether or not they follow the rules than whether they achieve certain outcomes. Local districts might select system indicators in a professional accountability model as an appropriate strategy for inducing accountability based on outcomes.

This strategy would emphasize setting goals and objectives for schools (and classes) and providing adequate and flexible resources for developing powerful improvement strategies, but not prescribing particular strategies. Individuals or teams of educators would be held responsible for meeting those goals and objectives. This strategy requires districts to be directive in the outcomes they expect to be achieved, but permit a high degree of discretion to educators pursuing those outcomes. The effectiveness of this model depends upon the vision and ability of educators, the ability of the system to provide the necessary resources, and the willingness of the local system to follow through with sanctions.

The Bureaucratic Strategy. School districts can use system indicators to create bureaucratic accountability mechanisms when policymakers are certain about the details what they want followed in developing school improvement strategies. Programmatic, curricular, and instructional activities can be boiled down to lists of specific criteria which have to be met including the placement and promotion of students, materials used, tests evaluating proficiency, length of time on each subject, and instructional strategies to be employed. Local districts can become quite precise in defining the educational process appropriate for specific conditions. The effectiveness of this strategy for improving student and school performance depends heavily on the selection of programs and procedures that work in the applied context.

Limitations of each of the accountability strategies

In selecting accountability strategies, policymakers need to be aware not only of the strategies available but also their limitations. Bureaucratic and legal strategies can effectively induce the desired behavior, but the emphasis on rules and regulations can inhibit the development of creative solutions. A tendency to over-specification, as rules proliferate, can also lead to inefficiency. The cost of monitoring can outweigh the benefits.

A professional or political strategy gives maximum latitude for developing creative solutions, but there is not much accounting for the way these solutions are derived. The activity may be near completion before the signs of failure or success appear. It is difficult to impose sanctions on professional employees when there has been little supervision, no prior agreed-upon outcomes, and few examples that the goals are

attainable. A political strategy avoids the danger of over-specification with the problems of uncertainty and vagueness. Expectations may be so unclear and the imposition of sanctions so unpredictable that there is little inducement for compliance.

Conclusion

In selecting between the strategies available to them, state and district policymakers face a choice between a bureaucratic-legal model and a professional-political model. The bureaucratic-legal models assume a direct supervisory/contractual relationship and routinized procedures governed by consistent rules and regulations. The professional-political models assume indirect control of the day-to-day operations while maintaining control of the final outcomes of the system. Detailed rules and regulations are sacrificed to trust in the expertise of personnel and a reliance on rewards and sanctions for control.

With each choice comes a risk. A high degree of institutionalization through rules and regulations guarantees that the resources of the system are distributed in a prescribed way and that procedural requirements associated with fairness and good instruction are followed. Yet, these very rules and regulations focus attention on intermediate goals and may encumber the creativity of educators in reaching better outcomes. A relaxation of the rules through reliance on professional or political models raises the specter of funds used inappropriately, discrimination, and elaborately designed but ineffective programs. Neither alternative in its extreme is acceptable.

At the same time, policymakers need to fully address the accountability process. The development of system indicators alone will not create systematic school improvement. Policymakers need to address each of the questions integral to a complete accountability loop: their relationship to the educational system, their beliefs about the true nature of education, their goals for the system, the political and legal system's ability to respond to different educational results, and ultimately what outcomes will be satisfactory. Only by answering each of these questions and articulating complete accountability mechanisms to address them — beginning with who is responsible for what and ending with a clear response — will policymakers develop a fair and effective accountability system for public education.

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References

Kagan, S. S., & R. Coley. (1989). *State education indicators: Measured strides and missing steps.* New Brunswick, NJ: Rutgers University, Center for Policy Research in Education.

Oakes, J. (1986). *Educational indicators: A guide for policymakers.* New Brunswick, NJ: Rutgers University, Center for Policy Research in Education.

Odden, A. (1990). Educational indicators in the United States: The need for analysis. *Educational Researcher,* June/July.

Romzek, B. S. & M. J. Dubnick. (1987). Accountability in the public sector: Lessons from the Challenger tragedy. *Public Administration Review,* May/June.

U.S. Department of Education. (1988). *Creating responsible and responsive accountability systems.* Washington, DC: Office of Educational Research and Improvement.

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